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ABSTRACT

The study sought to determine the possibility and feasibility of developing an intensified curriculum system that would provide high school seniors (with no prerequisite business courses) with those minimum skills essential for securing an entry job in selected occupational clusters. The first part of this two-faceted study involved the delineation of skills to be taught, development of materials, preparation of teachers to use the materials, and the actual classroom use of these materials with high school seniors. The second part of the program compared the effectiveness of the senior intensified program with the traditional program by collecting data from 710 graduates of the program, and 177 of their employers. Major findings revealed that statistically there is no significant difference between the output of the two programs, but that the intensified program prepared the students in half the time. While both programs train students for work, it is recommended that serious consideration be given to establishing senior year intensified programs as the basic pattern for reimburseable high school vocational education programs. A related study, "Opportunities and Requirements for Initial Employment of School Leavers with Emphasis on Office and Retail Jobs" is available as ED 010 054. (JS)

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FINAL REPORT

Project No. 6-1968
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SENIOR YEAR INTENSIFIED DEMONSTRATION CURRICULUM PROGRAM

(Phase II of
Opportunities and Requirements for Initial Employment of School Leavers
With Emphasis on Office and Retail Jobs, USOE No. 2378)

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PREFACE

This study evolved from a series of research projects. The first was initiated by the Business Teachers Club of Metropolitan Detroit and was subsequently funded by the Vocational Education Division of the Michigan Department of Public Instruction. The second study was developed cooperatively by business education representatives from the Detroit Public Schools, the University of Michigan, and Wayne State University.

The major findings from these studies indicated to the representatives of the cooperating agencies (and to other interested parties) a need for the development of a new curriculum pattern--a curriculum pattern designed to provide more efficient training for high school graduates to enter the labor market. Representatives from the Department of Business and Distributive Education from the Detroit Public Schools, the University of Michigan, and Wayne State University developed a proposal for a curriculum development and demonstration project.

The proposed three-year project was funded in June, 1966. The title of the proposal was "Opportunities and Requirements for Initial Employment of School Leavers with Emphasis on Office and Retail Jobs (OREOS), Phase II."* Throughout the three years of this study, the Committee of Principal Advisors has given unstintingly of their time. Much thanks is due to them for their continued interest in this curriculum project.

Special thanks are also due to the business teachers in the City of Detroit who actively participated in the writing of the curriculum materials and in the teaching of these materials for one or more years. Without their constant help and dedication to this project, the demonstration phase would not have been possible. Others who have contributed significantly to the successful completion of the demonstration and research phases of this program include Messrs. Gary Shapiro and Tom Ryan, research assistants, and Miss Mary Mayberry, administrative assistant.

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*During contract negotiations, a visiting team from the U. S. Office of Education recommended that the title be changed because Phase I of OREOS was focussed on high school graduates and dropouts (defined as "school leavers") while the second phase would only be concerned with students in their senior year of high school. Thus, the project was renamed "Senior Year Intensified Demonstration Curriculum Program."

Special acknowledgement must also be made to the public school administrators in the City of Detroit who were instrumental in securing the cooperation of the participating high schools. Finally, acknowledgement must be made of the support secured from Dean Joseph W. Menge, College of Education, Wayne State University, who has constantly provided the climate in which research and demonstration activities are encouraged.

SUMMARY

SENIOR YEAR INTENSIFIED DEMONSTRATION CURRICULUM PROGRAM

Fred S. Cook
Francis J. Brown
Frank W. Lanham

Wayne State University

USOE Proposal Number 6-1968
June, 1966 to December, 1969

BACKGROUND.

This study evolved from the findings of a number of independent studies and two funded studies which created doubts about the efficacy of the then current high school curriculums to prepare youth for entrance into the world of work. The findings from the major study in this series, OREOS*, raised serious questions about the number and types of *entry jobs* available to high school graduates as well as the *basic business skills demanded for these jobs.*

The Vocational Education Act of 1963 was the first national effort to focus attention on the business and office education curriculums. As a result of this legislation, the business and office education curriculums became an integral part of the vocational education spectrum. Immediate efforts were initiated by traditional vocational educators and traditional business educators to develop a vocational business education curriculum in the image of past vocational curriculums. Some of the basic elements of most traditional vocational programs prior to 1963 was *clock hours*, sequencing of semester or year *courses* over a span of at least *two to three years*, and *double or triple class periods.* In most cases the *new* vocational business education curriculum adopted the above elements and merely rearranged old courses or old course content and actually *added more semester hours of time to the curriculums.*

However, the findings from OREOS and other studies clearly indicated to the authors of the current study that the number of clock hours, prerequisites, sequencing of courses for two or three years, and large blocks of time (often as much as three or four clock hours) were not realistic in terms of the skills needed for the kind of jobs students actually secured upon graduation. Our data indicated that the first thing that was needed to prepare youths for entry jobs was a curriculum which offered factual, integrated, relevant, specialized training for a cluster of occupations.

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*Cook, Fred S. and Lanham, Frank W., Opportunities and Requirements for Initial Employment of School Leavers with Emphasis on Office and Retail Jobs, USOE Project No. 2378 (mimeo), June, 1966.

OBJECTIVES.

Can students learn sufficient skills in their senior year (without having had prerequired business courses) through the use of new curriculum patterns and materials to secure entry jobs in selected occupational clusters? If they can secure such jobs, how will the effectiveness of their training compare with graduates from the traditional business and distributive education programs. These two basic questions served as the primary focus for developing the present study.

The six specific objectives that were developed for the project were to:

1. Determine the essential skills needed for selected entry occupations in distributive and office occupations.
2. Determine the instructional units necessary to teach entry occupation skills.
3. Develop the Senior Intensified Program to meet entry occupation requirements.
4. Prepare selected seniors (who had no previous required high school business courses) to obtain and hold an entry job in selected distributive and office occupations.
5. Place the SIP students in entry occupations.
6. Determine SIP graduates success on their jobs.

PROCEDURES.

There were two facets to the SIP demonstration project. The first facet involved the delineation of skills to be taught, the development of materials to teach these skills, the preparation of teachers to utilize these materials, and the actual classroom use of these materials with high school seniors. All materials were written specifically for the project by teams of high school teachers, supervisory personnel, and teacher educators who were specialists in each of the four curriculum clusters:

1. salesperson
2. clerk/typist
3. clerk/stenographer
4. assistant data processing console operator

Each curriculum was taught in two or more schools by the high school teachers that had participated in the preparation of the materials.

At the end of the first year, the materials were revised and were taught to a second group during the school year. These curriculums and materials (with modifications) have continued to be used in the Detroit schools and at Wayne State University with high school seniors who volunteered to come to campus for these programs.

The second facet of the project was to compare the effectiveness of SIP (S) with the traditional business curriculum (T). The comparison was made with the final outcome analysis method*. The systems (S and T) were compared on several relevant factors: Supervisors' ratings and tasks performed on a job were used to compare the efficiency of the systems. The specific categories compared included: the number and types of jobs held, attendance at post-high school educational institutions, entrance into the armed services, homemakers, and unemployed.

Trained interviewers utilized structured protocols to obtain data from selected employers of the outputs (graduates) of both systems and from the graduates of both systems. Data were collected from 710 graduates (June, 1967 and 1968) of 12 Detroit high schools which offered SIP during the school years of 1966-1967 and 1967-1968. Three hundred and ninety-one of the graduates interviewed were from S and 319 from T. It was not possible to locate 20 graduates of S and 90 graduates of T. Twelve S and 14 T graduates refused to cooperate. Thus, data were secured from 84 percent of the graduates who were included in this study.

A total of 177 employers who were providing full-time entry level jobs for graduates of S and T were selected by the random serial process and interviewed. Eighty-nine of the employers had hired graduates of S and 88 had hired graduates of T.

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*Brown, Francis J., A Final Outcome Analysis to Compare the Effectiveness of an Experimental Business Education System versus A Traditional Business Education System to Prepare Students to Secure Entry Jobs in Office and Retail Occupations, an Ed.D. thesis. Detroit, Michigan: Wayne State University, 1968. Pp. 178.

FINDINGS.

The findings of the study are:

1. Statistically there were no significant differences between the ratings for the outputs of S and T.

2. System S prepared its outputs in 50 percent less time than T. System S outputs had an average of eight semesters of business courses as compared to 17 semesters for the T outputs.

3. Employers of the outputs of both systems were satisfied with the performance of the outputs in entry occupations.

4. Both systems enrolled a high percentage of females--76 percent (or 543 in number). A disproportionate percentage, 42 percent (or 300 in number), were in SCAT Quartile I.

5. Co-op experience and contacts is a significant factor in helping the graduate to secure an entry job.

6. Black males were as successful as white males in securing entry jobs. Black females had the highest rate of unemployment.

7. A very low percentage of the outputs of both systems had never been employed during their first year after graduation from high school: 2.5 percent for S and 1.6 percent for T.

8. No apparent relationship exists between job success (as measured by supervisors' ratings) and SCAT scores. Low SCAT scores does not deter an individual from being successful in an entry job.

9. The S outputs were more likely to enter post-high school educational institutions than the outputs of T.

10. White males were more likely to enter the armed forces than were black males.

11. Females from both systems were more likely to secure a job related to their high school training than were males of both races.

12. The majority of jobs held by the outputs of both systems were predominately in occupations related to their

training. Approximately 70 percent of the entry jobs were clustered in 10 DOT (*Dictionary of Occupational Titles*) classifications, although a total of 96 DOT's were represented in the study.

13. The annual gross income as reported by a majority of the outputs was less than $4,000.

14. Both systems taught the basic tasks that were reported as *used on the job* by the outputs and employers. System S, however, accomplished the training of its outputs in 50 percent less time than did T.

15. Typewriting was the most commonly *demanded skill* and it was also the task most commonly reported by the outputs of both systems.

16. Few skills--with the exception of typewriting--were reported as *demanded* by both the outputs of the two systems and the employers. Those skills that were demanded 20 or more times as reported by outputs include: Filing (46), business machines (27), data processing (22), shorthand (27), bookkeeping (25), and business mathmatics (20).

17. There are apparent discrepancies between the tasks reported by the outputs and the skills they stated that were *demanded* as a prerequisite for employment.

18. Adding/calculating machines were reported as being used on the job more often than any other type of machine. The typewriter was the second most commonly reported machine and a close third was the cash register. (A possible explanation of the low number of typewriters reported might be that the respondents assumed that it would be known that they were using a typewriter on the job.)

RECOMMENDATIONS.

Based upon the findings of the study, the recommendations are:

1. All concerned with the training and employment of high school outputs should be cognizant that students in the first quartile did successfully complete in the world of work and gain entrance into post-high school institutions. Consequently, teachers, counselors, and employers should not let SCAT scores be a major factor in their decisions concerning the student's ability.

2. To evaluate continuously a system, it is essential that feedback concerning the outputs be collected systematically at regular intervals. The instrument and procedures used in this study should be further refined and utilized as the bases for the necessary input corrections.

3. Consideration should be given to the possibility of reducing the number of courses as well as the number of semesters for each course in T. Furthermore, those courses that are retained should be analyzed to eliminate overlapping of content.

4. Because effective training for office and retail jobs can be delayed until the senior year of high school, it is suggested that other occupational areas be encouraged to test similar programs. It is further suggested that every high school that offers a vocational office or distributive education program should be required to have programs designed specifically for seniors.

5. Specific attention should be directed to developing in-school training programs that enhance the ability of the male graduate to enter the modern business office.

6. Graduates of both systems were successful in securing entry jobs. Consequently, it is recommended that black females be encouraged to consider the opportunities available to them if they have specific training in the office or retail areas.

7. In a series of studies it has been demonstrated that there is a significant relationship between being a co-op study and securing an entry job upon graduation from high school. Therefore, it is recommended that an effort be made to isolate those factors that enable co-op students to secure jobs and utilize these factors as an integral part of all vocational programs.

8. Teachers, counselors, administrators, students, parents, and others should be apprised of the fact that a significantly high percentage of all high school graduates enter the world of work through an office or retail job. Emphasis should be given to the use of DOT descriptions in describing specific job opportunities and not to DOT classifications, nor to SIC (Standard Industrial Classifications) codes. The last two put undue emphasis on broad

areas, such as retailing, which includes hundreds of DOT's from executive personnel to janitors.

9. Task analyses should be made for specific entry occupations in order to develop a series of performance goals based upon common tasks. These tasks should be analyzed and specific training materials should be developed to facilitate the learner's acquiring those skills needed for a cluster of entry occupations. Procedures and data developed by the NOBELS* project and the current study should be utilized to implement needed curriculum revision in the office and retail occupations.

10. Since relatively few skills are demanded, it is recommended that depth interviews be conducted on a systematic bases with immediate supervisors to determine the extent to which those skills demanded are utilized on the job. Data should also be gathered to determine if the employer and the employee are satisfied with the output's ability to apply the specific skill to the entry job.

11. The outputs of S did not have practice on the use of adding/calculating machines, yet this was apparently no deterrent in their successful adaptation to an entry office job. It is known that adding machines are very simple to learn. Consequently, it is *not* recommended that a course on office machines be taught just because this piece of equipment is used on the job.

12. Since both systems produced the same relative results and S was able to do so in approximately 50 percent less time (of both students and teachers), it is recommended that serious consideration be given by local, state, and national leaders in vocational education to establishing senior year intensified programs as the *basic pattern for reimbursable high school vocational education programs*.

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*Lanham, Frank W., Herschelmann, Kathleen M., Weber, Cathryn, P., and Cook, Fred S., Performance Objectives for A New Office and Business Education Learnings System. Columbus, Ohio: The Center for Vocational and Technical Education, USOE Project Number 808414, April, 1970.

Chapter I

SCOPE OF STUDY

INTRODUCTION.

The ideas basic to formulating the Senior Intensified Programs (hereinafter referred to as either SIP or S) were generated from the findings of a series of studies. Two of the major studies were:

1. Detroit Study of The Effectiveness of High School Education for Entrance into The World of Work.[1]
2. Opportunities and Requirements for Initial Employment of School Leavers with Emphasis on Office and Retail Jobs (OREOS).[2]

The first study delineated the absence of accurate information on entrance level jobs and the need for a comprehensive study of entry jobs in the office and retail occupations. The second study, OREOS[3], was developed to fill this informational gap in one metropolitan area--Detroit.

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[1] Cook, Fred S., Detroit Study for The Effectiveness of High School Education for Entrance into The World of Work, mimeo, June, 1963. A report to the Michigan Department of Education, Division of Vocational Education, Lansing, Michigan.

[2] Cook, Fred S. and Lanham, Frank W., Opportunities and Requirements for Initial Employment of School Leavers with Emphasis on Office and Retail Jobs, USOE Project No. 2378 (mimeo), June, 1966. (NOTE: See Appendix A for a summary of this report.)

[3] Sponsoring OREOS were the Detroit Public Schools, the University of Michigan, and Wayne State University. The proposal was approved for a period of two years by the U.S. Office of Education beginning in January, 1964. Wayne State University served as fiscal agent and provided the project director assisted by a Committee of Principal Advisers.

Members of the Committee of Principal Advisers were Leslie J. Whale, Jeanne Reed, George Kargilis, Ann Lind, and John Kushner, Detroit Public Schools; Frank W. Lanham, formerly of the University of Michigan; and Francis Brown, Daniel P. Brown, Mary Kocylowski, Christine Marshall, and Fred S. Cook (project director), Wayne State University.

OREOS proposed to determine the requirements for employment in entry jobs. Indeed, OREOS proposed to define specifically a prerequisite for initiating job-preparation curriculum changes such as those later recognized in SIP.

To accomplish the objectives of OREOS, the questions to be answered under each objective were specified as follows:

1. Determine the current market for high school leavers[4] between 16 and 21 years of age as reported by employers.
    - a. What are the jobs available that can be filled by school leavers?
    - b. Under what conditions would employers hire this age group for these entry jobs?
    - c. What are the characteristics of entry jobs for office and retail occupations?
    - d. What are the specific business skills demanded as a prerequisite for entry into office and retail jobs?
2. Determine what actually happened to a sample of school leavers as they sought to enter the labor market.
    - a. What kinds of entry jobs were obtained by school leavers according to size, kind of business, and job classifications in business?
    - b. What specific business skills were demanded as a prerequisite for entry jobs?
3. Determine the relationship, if any, between data collected from both groups of respondents--employers and school leavers.

Appropriate sampling techniques were developed to represent the some 36,000 businesses in Detroit, and some 10,000 public high school leavers from the 1963 graduating class. Data from employers and school leavers were collected by trained interviewers.

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[4] The term "high school leavers" includes both those who left at the time of graduation and those who dropped out prior to graduation.

Some of the major OREOS' findings that clearly indicated a need for curriculum revisions were:

1. Approximately two-thirds of all entry jobs filled in office and retail occupations were in two standard research industrial code research categories: (a) retail trade, and (b) finance, real estate, and insurance.

2. Fifty-four percent of all entry jobs were accounted for in clerical and sales Dictionary of Occupational Titles classifications: forty-four percent clerical and ten percent sales.

3. More 16 to 21 year olds lost their jobs for incompetence and inability to do the job than for any other reason. Inability to get along with people accounted for one-third of the reasons for dismissal.

4. Following a "co-op" work study program, sex, race, and the combined factors of sex and race were significant influences on whether a school leaver had held an entry job. "Co-op" was the most positive factor in determining whether a school leaver secured a job. Being a black female was the most negative factor in determining that a school leaver did not secure a job.

5. School leavers' intelligence ratings play an important role in determining the type of entry occupation found. Fifty-four percent of the high-intelligence group entered clerical occupations.

6. General office clerks accounted for 22 percent of all office and retail entry jobs filled: typists, 17 percent; sales clerks, 8 percent; sales persons, salesmen to consumers, salesmen and sales agents (except to consumers) and shoppers, 8 percent.

7. In ratio of skills[5] required to jobs available,

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[5] "Skills" were here defined as motor skills or psychomotor skills such as typewriting or shorthand rather than the strictly cognitive or thinking skills.

secretaries and stenographers ranked first with 1.96 skills demanded per job followed by typists, 1.1 skills per job; canvassers and solicitors, 1.0; general office clerks, 0.99.

8. Forty-four percent of all office and retail jobs demanded the skill of typewriting. Of all jobs demanding one or more skills, 85 percent of them demanded typewriting. Typewriting ranked first as the most frequently required skill in 13 office and retail occupations; second, in 8; and third, in 1. Only two entry job classifications in office and retailing did not have typewriting demanded of some workers.

The foregoing findings led to these conclusions (each of which influenced the pattern determined for SIP programs):

1. Few business "skills" are demanded as prerequisite for employment in office and retail jobs.

2. Typewriting is the one single business skill most often required in an entry office and retail job.

3. Retail selling jobs demand few, if any, skills.

4. "Co-op" work experience is a positive influence for entrance into full-time employment.

Previous hunches about the relevancy of the traditional curriculums (also referred to as T throughout this report) in business and distributive education became even more certain early in data analysis. Current curriculums were not particularly relevant to the employment requirements found. These curriculums were composed of discrete and often unarticulated subjects which were taught without relation to the skills demanded by the business community. Indeed, employers demanded relatively few skills for entry jobs--a condition completely ignored in T that requires from one-fourth to one-half of a student's high school elections in job preparation courses.

Even recent modifications of curriculum patterns, such as the senior year block programs, are apparently out of tune with the actual kinds of existing entry jobs and employers' demands for filling them.

Based on skill courses acquired at the sophomore and junior years, the two to four-hour senior block programs frequently increased the preparation time of high school students over traditional programs. With the few skills demanded for employment in entry jobs, OREOS' findings suggested that a decrease in preparation over traditional training programs was appropriate. Furthermore, by placing the primary occupational training in the senior year, the skills acquired would be at their peak when the student entered the world of work. The formulation of SIP was based on reasoning of the foregoing type. The decrease in learning time was accomplished through the integration of those skills and knowledges demanded in a series of specially designed curriculums.

THE PROBLEM.

High school graduates generally secure more entry jobs in office and retail occupations than in all other occupations combined. Data from OREAS and other studies, however, indicate that almost all entry jobs that are available immediately upon graduation require only a limited number of skills. At the time the current study was initiated, the majority of schools provided discrete courses of instruction which presumably were required by the graduates if they desired to enter the labor market through an office or retail occupation. Few schools had developed a program or an integrated curriculum for occupational preparation in these two areas.

All existing courses or curriculums were based upon the assumption that one or more years of work in a series of subjects were essential minimum preparation for securing a job. As previously mentioned, OREOS data revealed that few formal high school courses were essential. Furthermore, all existing courses or programs were based upon the use of existing textbook materials which were usually taught in a single class period.

Our problem was to determine if it was possible and feasible to develop a curriculum system that would provide high school seniors (who had had no previous required business courses) with those minimum skills essential for securing an entry job in selected occupational clusters. Was it possible that the necessary skills and materials could be identified, written, organized, and taught by high school business teachers to a broad spectrum of students from the senior class of the high schools found in an urban community? Finally, we needed to determine how well the graduates of such a program would fare in the labor market in competition with those that have had the traditional business or distributive education program.

These and related questions were the focus of the demonstration and follow-up facets of this study. The current project consisted of two major activities:

1. The identification, the development, and the demonstration of a new curriculum system and new curriculum materials.

2. The evaluation of the effectiveness of these curriculums as measured by the graduates' ability to enter the labor market and compete with graduates from the traditional business and distributive education systems.

OBJECTIVES.

Six specific objectives were identified in this curriculum demonstration project. These objectives were to:

1. Determine the essential skills needed for selected entry occupations in distributive and office occupations.
2. Determine the instructional units necessary to teach entry occupation skills.
3. Develop the Senior Intensified Program to meet entry job requirements.
4. Prepare selected seniors (who had had no previous required high school business courses) to obtain and hold an entry job in slected distributive and office occupations.
5. Place the SIP students in entry occupations.
6. Determine SIP graduates success on their jobs.

The first five objectives are concerned with the first major activity--development and demonstration phase of the SIP Program. The sixth objective is concerned with the second major activity--the effectiveness of SIP.

To accomplish these two major activities, special staff was secured, and the necessary materials were written and used for one year. These materials were subsequently evaluated, refined, and used in the second year of the demonstration facet of the project. Informal evaluations from teachers, students, and employers were collected during the first and second years. These evaluations also provided data for changes and revisions in content and procedures.

A total of five curriculums was developed the first year (1966-1967).[6]

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[6] The five SIP curriculums were: (1) Clerk/Cashier, (2) Sales-Specialist, (3) Clerk/Typist, (4) Clerk/Stenographer, and (5) Console Operator.

These were subsequently revised (Summer, 1968) and the two distributive education curriculums combined[7], so that for the second year (1967-1968) four curriculums were tested. Each curriculum was used in two or more schools.

The identification, development, and demonstration of the curriculum materials, while essential for the first facet of the project, are not the major concern of the study. A discussion of these procedures is contained in Chapter II. The text materials are not included in this report due to quantity--each of the four curriculums contains approximately 800 pages.

The primary focus of this report is devoted to a discussion of the evaluation phase of the curriculum demonstration project. In June, 1968, a systematic formal follow-up using trained interviewers was initiated to collect data from those students who had graduated in June, 1967. Data were also collected from selected employers of these graduates. A parallel study was conducted in 1969 on those students who had graduated in June, 1968. These two studies are combined for purposes of this report, and are discussed in detail in Chapters III and IV.

LIMITATIONS AND ASSUMPTIONS.

1. The techniques and procedures utilized in this study will be applicable in other urban centers to the extent they are identical to Detroit.
2. The secondary schools selected for this study are representative only of the metropolitan Detroit school system.
3. It is assumed that the questionnaires employed in the study are of sufficient validity and reliability for the purposes of the study. In the development of the questionnaires, the instruments were revised, field tested, and reviewed by three panels of consultants. The graduates' questionnaire was revised seven times and the employers' questionnaire eleven times.
4. Whenever one asks another person a question, there is a basic assumption that the answer is true; that is, an

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[7] Clerk/Cashier and Sales-Specialist were combined into one SIP curriculum--Sales Person.

"expressed" opinion is a "felt" opinion of the respondent. In order to optimize the probability of this assumption being true, all respondents were assured that their responses would remain confidential. The interviewers involved were also trained to refrain from any response which might tend to suggest a "correct" answer. Under these conditions the assumption of an "expressed" opinion is a "felt" opinion was considered reasonable.

5. The traditional business education curriculum being compared is the type found in a large urban school system.

6. The students included in this study are graduates of the Detroit public high schools which offered SIP during the 1966-1967 and 1967-1968 school years.

7. Samples were matched on the following factors:

    a. School.

    b. Sex.

    c. SCAT total score by quartile.

    The SCAT score was selected because it is the measure used by the Detroit Public Schools as a principal predictor of aptitude. The administrators of the Detroit Public Schools recognize the limitations of the SCAT test, but believe it is still the best available predictor of success in school.[8]

SUMMARY.

Can students learn sufficient skills in their senior year (without having had prerequired business courses) through the use of new curriculum patterns and materials to secure entry jobs in selected occupational clusters? If they can secure such jobs, how will their training effectiveness compare with graduates from the traditional business and distributive education programs? These two basic questions served as the primary focus for developing the present study.

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[8] E. L. Cushman and D. J. Keith, Co-Chairmen, Report of The Detroit High School Study Commission. Detroit, Michigan: June, 1968, p. 120.

The procedures utilized for developing and demonstrating the materials are the focus of Chapter II. The design of the study and methods of analysis are described in Chapter III. The major findings are discussed in Chapter IV. In Chapter V each finding is discussed and followed by conclusions and recommendations.

Chapter II

PROCEDURES FOR DEVELOPING AND DEMONSTRATING SIP CURRICULUM PATTERNS AND MATERIALS

INTRODUCTION.

There are two discrete facets to the SIP demonstration project. The first of these activities was the development and demonstration of new curriculum patterns and materials. Procedures for this phase of the project will be described in this chapter.

The second facet--the comparison of the effectiveness of S (the experimental business education system) to T (the traditional business education system)--will be described in Chapter III. This latter facet will, as previously indicated, receive the major attention of this report.

DEVELOPING SYSTEM S.

The objectives and procedures for developing S will be the focus of this section. Specific attention will be directed to each of the five objectives together with the procedures utilized for accomplishing these objectives.

1. *Determine the Essential Skills Needed for Selected Entry Occupations in Distributive and Office Occupations.*

It has been assumed that certain minimum marketable skills are essential for securing entry level occupations. Teaching these skills in the past has been assumed to be global in nature. In T an effort has been made to teach the students most of the things they might have to know in the total area of distributive or office occupations.

Findings from OREOS indicated that beginning job requirements represent a relatively narrow skill range. Preparation, consequently, should be concentrated on those skills that students must have for an entry job. For example, in the case of a clerk/typist, emphasis was placed on those skills required to obtain and perform in a specific entry job.

The process for the selection of these essential skills involved an analysis of employer and employee statements which were collected as part of the OREOS project. These skills were compared with written job descriptions, the Dictionary of Occupational Titles, and reviewed and refined in a series of meetings with members of the business community and classroom teachers. These resources were utilized by project personnel to develop a list of essential skills to be included in each of the separate curriculums.

2. *Determine the Instructional Units Necessary to Teach Entry Occupation Skills.*

It was assumed that T (composed of separate, nonarticulated courses) is not the most efficient approach to vocational preparation for entry jobs. On the basis of skills determined in objective one, intensified, integrated units were developed to provide a more efficient procedure to prepare the student with those minimum essentials.

During the summer of 1966, five teams[9] analyzed instructional materials needed to teach the selected entry skills for each of five occupational areas. An analysis was also made of the resources available and units taught in the traditional business education curriculum.

Concurrently, new text materials, periodicals, literature, and other supplementary sources were combed for ideas that would be relevant for teaching the selected units.

Programs developed for the first year of the demonstration project were:

1. Clerk/Cashier
2. Sales-Specialist
3. Clerk/Typist
4. Clerk/Stenographer
5. Data Processing Assistant Console Operator

(The two distributive education programs were combined in the second year.)

These programs were selected primarily because data from OREOS indicated that a high proportion of high school graduates were employed in occupational clusters (as defined by the Dictionary of Occupational Titles) that included file clerks, general office clerks, stenographers, typists, sales persons, and storekeepers.

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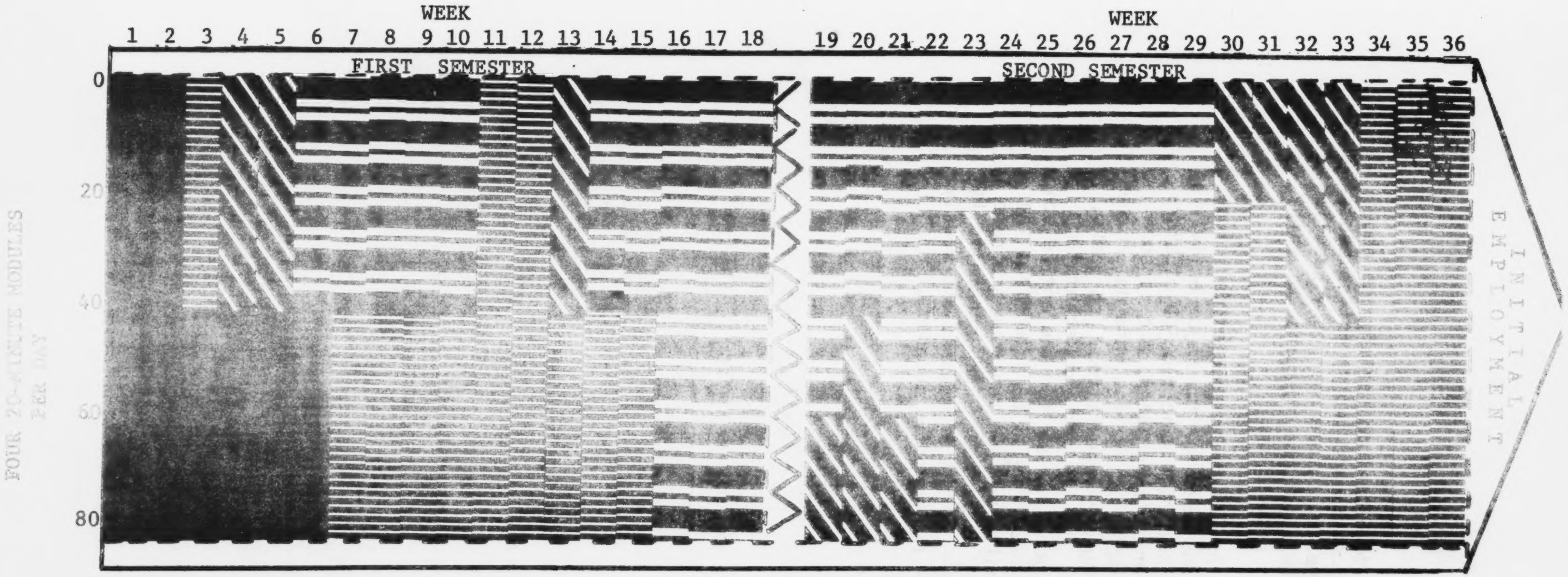
[9] Each team consisted of four high school business teachers, a curriculum specialist from the Detroit Public Schools, and a curriculum specialist from Wayne State University's Department of Business and Distributive Education.

Therefore, four programs were developed to satisfy the above needs--two in distributive education and two in office education. The fifth program, data processing console operator, resulted from discussions with employers about the emergence of entry occupations in electronic data processing.

Program Schematics. Each of the following schematics illustrates the basic time allocations used for the major activities identified as being essential for that specific job cluster: salesperson, clerk/typist, clerk/stenographer, and console operator. For example, four major activities were determined for the clerk/stenographer program--typewriting, job tasks, shorthand, and transcription. The key for each schematic indicates the time allocated per day, and for the entire school year for each specific activity. It will be noted that the time pattern differs dramatically between the four programs in terms of the specific activity concerned. Each schematic is followed by a brief description of the procedures and weekly time allocations utilized for the specific programs.

SIP

SALESPERSON



■ SPECIAL PROJECTS/TOPICS

▤ SALES FUNCTIONS

▨ INTERACTION WITH CUSTOMERS, EMPLOYEES, SUPERVISORS

☰ MERCHANDISING FUNCTIONS

fsc/mmk December, 1969

This schematic illustrates the basic time allocations used for the four major activities identified in the key to the left. In Weeks 1 and 2, for example, the student will spend the majority of his time developing skills and knowledges in procedures for securing employment. In Weeks 3 to 6, the student will spend approximately half of his time in Special Projects/Topics such as Preparation for Change and Work Simplification and the remainder in activities related to Sales, Merchandising, and Interaction with Customers, Employees, and Supervisors. Emphasis on Sales Functions begins during Week 7 and increases as a result of Christmas sales training.

These time allocations should not be interpreted as definitive units within the 80 minutes. The material taught in each time allocation is integrated with and related to other appropriate distributive education topics. The attached sheet delineates the specific content areas of this program.

Description of Salesperson Schematic.

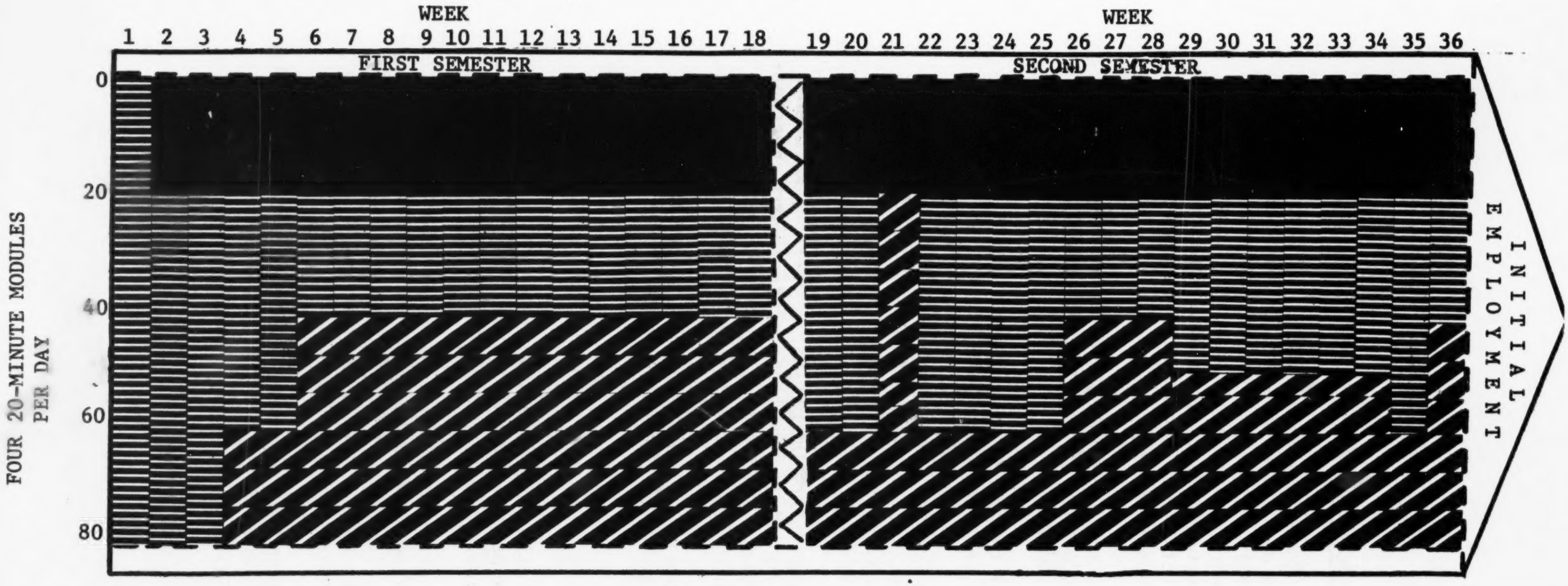
Interaction with Customers/Employees/Supervisors: Those characteristics which are considered desirable in a retail story employee are emphasized throughout this segment of the Salesperson Senior Intensified Program. An awareness of the human relations aspects of a retail store and an improved "social intelligence" is encouraged by student participation in case studies, role playing, field trips, and panel discussions.

Sales/Merchandising Functions: Training in sales techniques and merchandising procedures necessary for entry level employment is introduced to students as follows:

Week 1-2	Sources of Employment, Employment Tests, Job Interview, Application, Data Sheet.
Week 3-6	Marketing Concept, Telephone and Other Sales Techniques, Interaction with Customers/Employees/Supervisors, Preparation for Change, Work Simplification.
Week 7-9	Functions of Store Operation, Promotion, Merchandising (product information, store layout, merchandise placement, receiving, stock and inventory), Implications and Effects of Data Processing.
Week 10-13	Sales Procedures (cash register, sales checks, markups/markdowns, making change) Christmas Sales Training.
Week 14-16	Advertising, Display, Consumer Buying Motives.
Week 17-22	Fashion (color coordination, line and design, fitting apparel, current trends), Fiber/Fabric composition and structure--selling features.
Week 23-29	Customer Awareness, Sales-oriented Speech, Store Organization (policies, sales and expense planning, location, merchandise sources), Analysis of trading area, store type, patronage, operation, and financial requirements.
Week 30-36	Sales Demonstration, Substitute Selling, APA Sales Plan, Customer Relations, Sales Letters and Vocabulary.

SIP

CLERK TYPIST



▤ JOB APPLICATIONS

■ TYPEWRITING SKILL BUILDING

▨ JOB TASKS

fsc/mmk December, 1969

This schematic illustrates the basic time allocations used for the three major activities identified in the key to the left. In Week 1, for example, the student will spend the entire 80 minutes in learning the principles of touch typewriting. During Weeks 2 and 3, approximately 20 minutes a day is spent in typewriting skill building and 60 minutes in basic typewriting procedures such as horizontal and vertical centering and tabulation. Week 4 illustrates the continuation of typewriting skill building for 20 minutes, 40 minutes of job tasks, and 20 minutes of job applications.

These time allocations should not be interpreted as definitive units within the 80 minutes. The material taught in each lesson is integrated or merged in the job tasks units. The attached sheet delineates the specific content areas of this program.

Description of Clerk/Typist Schematic. Typewriting Skill Building: During the first three weeks of the Clerk/Typist Program, basic instruction (approximately 15 hours) is given in the principles of touch typewriting, horizontal and vertical centering, and tabulation. The balance of the first and second semester is comprised of 20 minutes per day of skill building (Accuracy-Speed-Accuracy drills[10]) and composition at the typewriter (Thought Starters[11]). Further typewriting instruction is integrated in the content of the remainder of the program--job applications and job tasks.

Job Applications: Typewriting job applications begin on the first day of the fourth week in the Clerk/Typist Program. Typewritten copy is evaluated on the basis of mailability. These job applications include letters, inter-office memoranda, rough draft copy, duplicated materials, selected business forms, and reports. An integral part of the program is training on the Magnetic Tape Selectric Typewriter (MT/ST) beginning at the end of the first semester and continuing throughout the second.

Job Tasks: While the primary method of instruction in the Clerk/Typist Program is laboratory assignments, teaching techniques such as role-playing, case studies, class discussion, guest lectures, and field trips are used to expose students to practical applications of the following job tasks necessary for entry level employment:

Week 1-4

- Keyboard Instruction
- Horizontal/Vertical Centering
- Tabulation/Letters

Week 5-8

- Rough Draft Material
- Report Typing

Week 9-10

- Data Sheet/Letter of Application
- Job Interview/Application Blanks
- Application Follow-up Letter
- Employment Tests

Week 11-15

- Filing
- Duplicating
- Office Machines

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[10] Cook, Fred S., "A-S-A (Accuracy-Speed-Accuracy) an Effective Skill Building Device." California Business Education Journal, 2: 22-24, October, 1966.

[11] Cook, Fred S.,"Use Thought Starters for Composing at the Typewriter." Business Education World, 48: 12-13, June, 1968.

Week 16-18

Recordkeeping (Business Forms)
Data Processing Terminology
Magnetic Tape Selectric Typewriter

Week 19-22

Communications Skills (Writing, Reading, Listening, Speaking, Dictionary Usage, Spelling)

Week 23-25

Review of English Skills

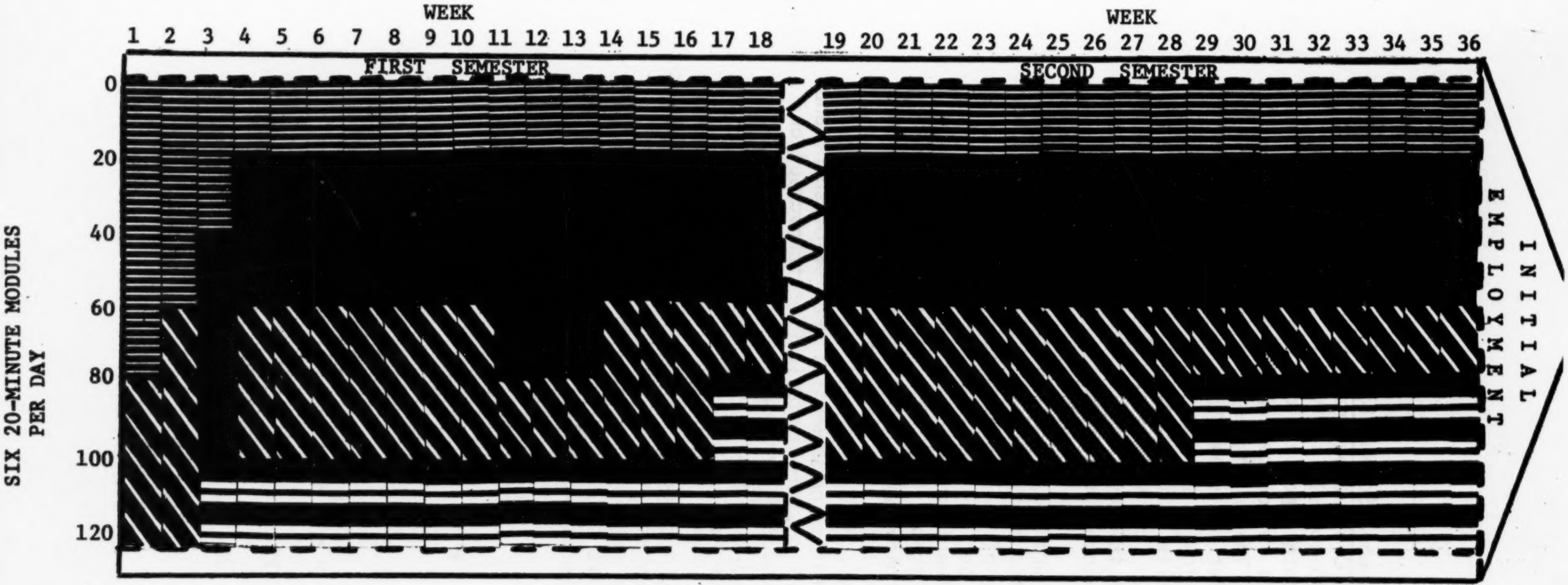
Week 26-33

Telephone Techniques
Postal Services/Office Mail Procedures
Filing

Week 34-36

Securing Employment
Making the Employer's Job Easier

CLERK STENOGRAPHER



This schematic illustrates the basic time allocations used for the four major activities identified in the key to the left. In Week 1, for example, the student will spend approximately 80 minutes in which the principles of touch typewriting are introduced and 40 minutes in job tasks. The same procedure is followed for Week 2 except that the amount of time spent on typewriting is decreased to 60 minutes and job tasks increased to 60 minutes. Week 4 illustrates the continuation of typewriting skill building for 20 minutes, 40 minutes of shorthand, 40 minutes of job tasks, and 20 minutes of transcription.

These time allocations should not be interpreted as definitive units within the 120 minutes. The material taught in each lesson is integrated or merged in the job tasks units. The attached sheet delineates the specific content areas of this program.

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Description of Clerk/Stenographer Schematic. Typewriting: During the first three weeks of the Clerk/Stenographer Program, basic instruction (approximately 15 hours) is given in the principles of touch typewriting, horizontal and vertical centering, and tabulation. Letter format is introduced as a part of shorthand and transcription training. The balance of the first semester and the entire second semester of typewriting instruction is comprised primarily of twenty minutes per day of skill building (Accuracy-Speed-Accuracy drills[12]) and composition at the typewriter (Thought Starters[13]). Furhter typewriting instruction is integrated in the content of the remainder of the program--shorthand, transcription, special projects, and job tasks.

Shorthand/Transcription: Shorthand and transcription instruction begins on the first day of the third week in the Clerk/Stenographer Program. Typewriter transcription is evaluated on the basis of mailability. Forty minutes per day is allocated for shorthand instruction, except during the first week and for three weeks upon the completion of shorthand theory when 60 minutes per day is used. Shorthand theory is completed in seven weeks. The writing approach is used. After completion of theory presentation, the balance of the first semester and part of the second semester include one or more of the following elements: Review of shorthand theory, skill building dictation, and dictation for transcription. New-matter dictation for transcription was especially written to include material related to job tasks. The Gregg Shorthand One Text Kit was used in this program.

Job Tasks: Through teaching techniques such as role-playing, case studies, class discussion, guest lectures, field trips, etc., as well as concomitant learning derived from dictation and typewriting material, students are exposed to practical applications of the following job tasks necessary for entry level employment:

Week 1-4	Week 5-10
Job Application	Review of English Skills
Job Interview	Letters
Employment Tests	Telephone Techniques
	Report Typing

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[12] Cook (1966), op. cit., p. 25.

[13] Cook (1968), op. cit., p. 25.

Week 11-16

- Inter-Office Memoranda
- Recordkeeping

Week 17-18

- Data Processing Terminology
- Data Sheet/Letter of Application
- Application Follow-up Letter

Week 19-28

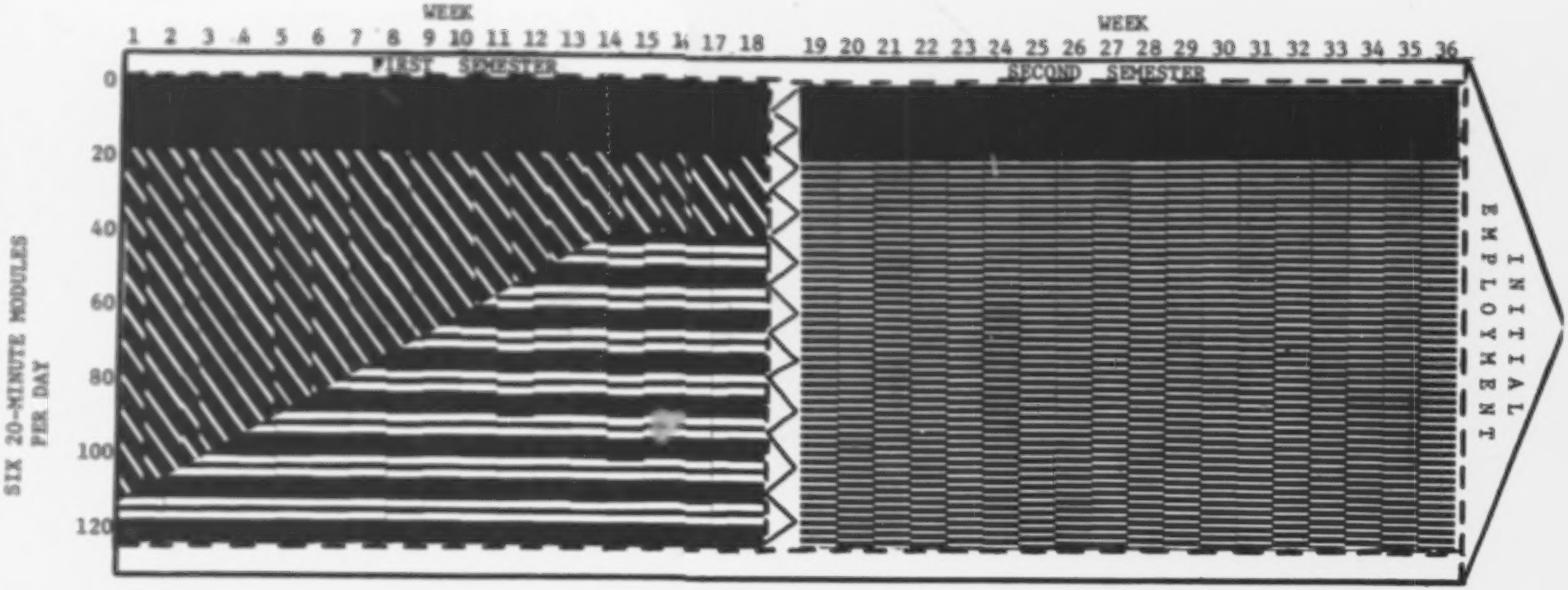
- Filing
- Duplicating
- Office Machines
- Mail Procedures
- Business Forms

Week 29-36

- Duties of a Stenographer/Secretary
- Making the Employer's Job Easier
- Job Outlook/Sources of Employment
- Employment Tests

SIP

DATA PROCESSING



■ SPECIAL PROJECTS/TOPICS

▨ EAM OPERATION

☰ JOB APPLICATIONS REQUIRING THE USE OF ONE MACHINE

▤ JOB APPLICATIONS REQUIRING THE USE OF ALL MACHINES

This schematic illustrates the basic time allocations used for the four major activities identified in the key to the left. During the first semester, the student will spend the majority of his time developing the skills required to operate unit record equipment and performing individual machine job applications. This includes card handling, preparation of wiring diagrams, and board wiring. The remainder of his time in spent in special project/topic activities. The second semester is comprised of individualized instruction in the solution of business problems integrating the use of the entire EAM installation. The attached sheet delineates the specific content areas of this program.

Note: With minor modifications, experimentation has indicated that this program may also be taught in a time span ranging from 90 to 120 minutes.

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Description of the Data Processing Schematic. The SIP Data Processing is designed to provide the basic skills and knowledges necessary to obtain an entry level position in a data processing installation. "Hands-on equipment" experience is related to a series of job applications ranging from the simple to the complex.

EAM Operation/Job Applications Requiring the Use of One Machine: The student is introduced to the operation of each machine by reading the SIP manual. This manual is composed of a number of data processing jobs or lessons on each machine. Each job is designed to teach a single concept such as alphabetic sorting, merging cards, or reproducing card decks. Manipulative skills are acquired on the card punch, interpreter, collator, sorter, reproducing punch, and accounting machine. The student prepares wiring diagrams, control panels, and prints reports when specified. As the student advances in the program, job applications include the use of combined machine operations to show the relationship of off-line peripheral equipment for processing data.

Job Applications Requiring the Use of All Machines: The student applies his knowledge of the functions and operation of EAM equipment learned in the first semester to solve and process business applications. Typical business applications (jobs) include payroll, sales, and inventory control reports. The jobs state only the objectives to be attained and supply the required source information. The student is not told the specific steps needed to process a job, but consults with the teacher for individual help when necessary. Successful completion of each job determines advancement to higher level job applications throughout the semester.

Classroom Organization and Procedures: The teaching of SIP Data Processing differs from the traditional classroom. The role of the teacher is similar to that of an EDP manager in industry. The student proceeds through the lessons at his own pace. In addition to over-all supervision by the teacher, a student "manager" is assigned to each machine to aid other students when they experience operational difficulties. Students are assigned to begin a job on one of the machines and, upon its completion, they rotate to another machine. Planned rotation is not implied, since students rotate to available equipment. This classroom procedure provides the maximum potential for machine utilization.

Common Units of Each Curriculum. Analysis of the skills, knowledges, and attitudes that were mandatory--musts for the entry occupations--indicated that time must be made available in each of the curriculums for "attitudinal" units. Consequently, each of the major curriculums contain three common units. These three common units are: (1) Securing Employment, (2) Work Simplification, and (3) Preparation for Change. The content of each common unit takes approximately 25 modules of 20 minutes each. These modules were integrated into the daily activities of the specific curriculum. Thus, work simplification materials were integrated with rough draft typewriting materials, dictation materials, and other student reading and writing assignments.

The following is an overview of these three common units:

1. *Securing Employment*. Through case studies, role playing, and guest lectures, students were given instruction in how to get a job and how to keep it. Sources of employment, job outlook, application and interview techniques were discussed in depth. Students were exposed to a variety of employment tests prior to actual job interviews in the community. Many students were placed on part-time cooperative work experience jobs prior to completion of the program.

2. *Work Simplification*. Initial instruction in work simplification was based on the principles of time and motion economy. Subsequently, students were guided and encouraged to find easier, faster, and more efficient and practical ways of performing job tasks. Through class activities and discussion, examples related to specific entry level jobs became evident. The theme for this unit of instruction was "Work Smarter, Not Harder."

3. *Preparation for Change*. The effects of change upon entry jobs and the rapidity with which change occurs was emphasized throughout the curriculum demonstration project. The need to update or develop new skills and knowledges was stressed to prepare students for the eventuality of changing jobs. Material related to socio-economic change, changes in attitudes and values, technology, and the employing community was integrated into classroom units of instruction. An awareness of these changes was further encouraged by student participation in panel discussions, readings, and collection of examples found outside the classroom.

3. *Developing the SIP Program to Meet Entry Job Requirements.*

The Senior Intensified Program was based on the concept that during the senior year of high school, students without previously required business courses could be taught adequate business skills to secure entry level office and retail jobs. To this end instructional packages were developed that could be taught in one school year in time periods of not less than 80 nor more than 120 minutes per day. The SIP curriculums were designed to prepare the students for a cluster of occupations rather than to give the student a series of discrete business courses.

Time effectiveness in preparing students for entry jobs was a major criterion in developing the SIP curriculums. For example, T in the Detroit Public Schools requires approximately 1,440 forty-minute class periods to prepare a student for a stenographic job. The SIP curriculums were built on the assumption that time could be cut by as much as two-thirds. In other words, the programs finally developed required not more than 540 forty-minute class periods in a student's senior year without prerequisite study in any business courses.

A second major criterion in the development of the curriculum pattern was that each of the curriculums would contain only those skills and knowledges actually needed for entry jobs.

The third criterion was the utilization of a block of time for the teaching of the essential content. One teacher was assigned to teach the class for the two or three periods that the students were in the SIP curriculum. This same teacher also had the responsibility of serving as the co-operative education coordinator. The teacher-coordinator helped the students find appropriate after-school, part-time jobs to correlate with the in-school instructional program.

Selecting Schools, Teachers, and Materials. One of the primary steps in developing SIP materials and teaching procedures was the selection of schools for the demonstration program. The director of the Detroit Public Schools' Department of Business and Distributive Education invited all department chairmen to a meeting to (1) discuss the concepts of SIP and (2) solicit support. Chairmen from 10 schools volunteered to try one or more SIP curriculums during the first year of the demonstration project. A list of names of one or more teachers who might be interested in participating was contributed by these department chairmen.

Since teacher-developed materials were to be the curriculum basis for each program, it was necessary to secure teachers who were willing to commit their time to the project for two calendar years. Two-year commitments provided the summer of 1966 for initial program development, a school year for classroom testing, the second summer for revision, and the second year for program retesting in the classroom. In preparing instructional materials during the summer of 1966, emphases were placed on what the individual must know to secure an entry level job, not what he might someday need to know. Analysis of OREOS job duties indicated to the team members that many of the items used in current text materials were might, not must. Much of the current text material was concerned with career development rather than obtaining entry employment. As a result of the analysis of job duties and currently available text materials, the SIP writing teams decided (with the exception of shorthand theory) to prepare their own teaching materials. Possible teaching/learning materials were integrated units so that all the materials were designed to be more appropriate for a fused, more integrated system.

By the end of the eight-week summer period all necessary teaching and student materials had been written and duplicated for each of the five curriculums for the first semester. During the ensuing school year, each of the curriculum groups met as work teams to:

1. Develop additional materials for the second semester.
2. Evaluate the use of the materials developed.
3. Modify these materials and their use based on student and teacher evaluation.
4. Explore avenues for adjustments in the teaching methods and time schedule for the curriculum.

In addition to these special group sessions, all five groups met on a systematic basis to compare notes and to develop consistent internal policies and procedures. As a result of these planning and evaluation sessions, SIP systems and materials were modified for the second year's demonstration as follows:

1. The daily class sessions were reduced from 120 minutes to 80 minutes in the Clerk/Typist and the distributive education programs.
2. The two distributive education programs (Sales-Specialist and Clerk/Cashier) were combined into one program--Salesperson.

3. On an experimental basis, a few sections of Clerk/Stenographer were conducted as 80-minute daily sessions.

One of the problems encountered during both years of the demonstration project was the difficulty in securing jobs for the students. The members of the project team met these problems through a concentration of publicity in the employing community. For example, in the spring of the first year, a city-wide SIP day was held just before graduation to which major Detroit employers were invited. Here, employers were exposed to the program; first hand exposure to approximately 200 high school students who were seeking employment. This latter exposure--actually hearing students from SIP explain their program and what they were able to do as a result of their SIP curriculum, actually seeing young men and women appropriately scrubbed and groomed for business, and actually interviewing these students for jobs--was one of the prominent factors in obtaining job commitments. Employers examined and were sold on the SIP Program. Employers were also given the frank appraisals of this demonstration project by the students who had participated in it.

Selecting SIP Students: First Year (1966-1967. The department chairmen and principals of the 10 high schools who had agreed to conduct the SIP curriculum(s) were contacted to assist in developing a plan for selecting students.

The guidance counselors in each of the selected schools were advised of the SIP Program. They, in turn, advised appropriate students of the nature and intent of the program. To become a SIP student, the student had to meet the following criterion: (1) Be entering grade 12B, and (2) must not have taken any business courses during the tenth and eleventh grades. It was not possible to find a sufficient number of students who met this second criterion because of the heavy enrollment in business education programs in the Detroit Public Schools. Consequently, many SIP students had the equivalent of two semesters of high school business courses prior to SIP.

As a result of these efforts, which included many personal contacts within the public schools by administrative personnel in its department of business and distributive education and by the project director, 227 students enrolled in SIP curriculums.

Table I.--DISTRIBUTION OF STUDENT ENROLLMENT IN SIP CURRICULUMS BY TYPE OF PROGRAM: FIRST YEAR OF DEMONSTRATION STUDY, 1966-1967

SIP PROGRAM	NUMBER OF STUDENTS		
	Initial Enrollment	Dropped Program	Graduated
Clerk/Cashier	34	8	26
Sales-Specialist	45	14	31
Clerk/Typist	97	20	77
Clerk/Stenographer	19	3	16
Data Processing Console Operator	32	4	28
TOTAL	227	49	178

During the school year, 49 students dropped the program; 178 students graduated from the program in June, 1967. Data for the 1967 graduating class were based on 178 graduates from S and 178 graduates from T.

Selecting SIP Students: Second Year (1967-1968). To secure students for the 1967-1968 school year, the director of the public schools' department of business and distributive education and the project director in February, 1967, personally contacted each of the schools that had SIP curriculum(s). At that time, a discussion was held with the principals and department chairmen concerning the possibility of continuing SIP for the following year. In those schools where the administrative officers were desirous of continuing the program, the SIP teachers and guidance counselors cooperated in securing students for the 1967-1968 school year. The administrators at two schools--Ford and Mackenzie--decided that the programs were not meeting a felt need in their schools. Two new schools were secured to take their places--Kettering and King.

It should be noted that the principal of Kettering High School moved to Northern High School in 1967-1968. He was so enthusiastic about the potential of SIP that four programs were initiated at Northern for the second year.

It was necessary for the SIP teachers at Northern to recruit students at the beginning of the school year by working with twelfth grade English teachers and counselors. A total of 362 students were enrolled in the second year.

During the second school year, 117 students dropped the program and 245 students graduated in June, 1968. Data for the 1968 graduating class were based on 245 graduates from S and 245 graduates from T.

Table 2.--DISTRIBUTION OF STUDENT ENROLLMENT IN SIP CURRICULUMS BY TYPE OF PROGRAM: SECOND YEAR OF DEMONSTRATION PROJECT, 1967-1968

SIP PROGRAM	NUMBER OF STUDENTS		
	Initial Enrollment	Dropped[14] Program	Graduated
Salesperson	147	41	106
Clerk/Typist	73	22	51
Clerk/Stenographer	85	37	48
Data Processing Console Operator	57	17	40
TOTAL	362	117	245

[14] Many of the students who were "assigned" to SIP had insufficient interest and/or ability to successfully complete the program.

4 and 5. *Preparing and Placing Selected Seniors to Hold an Entry Job in Selected Office and Retail Occupations.*

The fourth and fifth objectives were to prepare students and to help them secure entry jobs in office or retail occupations. These two objectives were accomplished through the methods and materials previously described. The specific materials were written by classroom teachers involved in each of the basic curriculums. Although no new techniques were specifically developed for this project, there were several procedures which were positively accepted by both teachers and students. These included the freshness or relevancy of the materials and the block time scheduling. Because the teachers had the students for two or three consecutive class periods and also served in the role of a placement coordinator, there was a more positive, closer working relationship between the students and the teachers than is typical in a large urban high school.

An integral part of the SIP concept was the proposition of an after-school cooperative work experience program. Unfortunately, it was not possible to place all of the students in a part-time job during their senior year. Some of the factors that created problems were:

1. Most of the students were not 18.
2. A very high percentage were black females.
3. Some were not considered employable by their teachers until almost the end of their senior year.

The ultimate success of the project must be determined in relation to its effectiveness in preparing students to enter the labor market in jobs related to their preparation. The analysis of this phase of the program is discussed in considerable detail in Chapters III and IV.

SUMMARY.

What is SIP? SIP was a newly designed curriculum pattern which prepared students during their senior year for employment in the following clusters of entry occupations:

DISTRIBUTIVE EDUCATION: (1) Salesperson
OFFICE EDUCATION: (2) Clerk/Typist, (3) Clerk/Stenographer
DATA PROCESSING: (4) Console Operator

The purpose of SIP was to provide students with those minimal essential business skills that are demanded by employers for entry into today's office and retail occupations.

Special teaching materials and methods were developed by business teachers. The findings of the study, "Opportunities and Requirements for Initial Employment of School Leavers with Emphasis on Office and Retail Jobs," provided the basis for the tasks and units included in the instructional materials.

These new vocational distributive and office curriculums were open to students without prior business courses. The minimal essentials were taught in a block of time of 80-120 minutes.

Why SIP? Employers of high school leavers (dropouts and/or high school graduates) demanded relatively few skills for the jobs available to youth who had had no previous work experience.

Where specific skills were demanded--as in the retail and office occupations--no data were available on the minimal requirements for securing employment prior to the OREOS study. Consequently, the schools taught skill courses that were often out of touch with the specific needs of the business community. In most cases this combination of skill courses had taken an inordinate amount of the high school student's time. The curriculum demonstration program, therefore, saved two-thirds of the time then devoted to the now discrete, unarticulated and sometimes unrealistic course requirements.

How SIP Operates. The major differences between SIP and other vocational co-op curriculum patterns are:

1. The program was designed for high school seniors.
2. The seniors were not required to have had previous preparatory courses in distributive and/or office occupations.
3. Current data on opportunities for entry occupation requirements were used as the basis for the development and evaluation of the essential content of these new curriculums.
4. The minimal essential subject matter was taught in its entirety in the senior year of high school.
5. Methods, materials, and time allocations were evaluated and revised to reflect innovations in business and education brought about by technological changes in educational facilities.
6. Data from OREOS were used to help define the characteristics of students for whom these curriculum patterns were most appropriate. The focus was not on covering a book, but rather with teaching the essentials needed for securing entry occupations.
7. Whenever possible, students were given on-the-job training for one semester. This is a modified co-op program, i.e., it is not a block of scheduled school time and is usually less than 15 hours per week.

Chapter III

PROCEDURES USED TO SELECT MATCHED SAMPLE AND TO COLLECT DATA

INTRODUCTION.

The purpose of this study is to compare the effectiveness of S with T. The comparison is to be made by the final outcome analysis method[15] of systems analysis. By this method the concern is with the end results without respect to intermediate outcomes and alternatives. In other words the systems are treated solely as "black boxes[16]." The internal details by the black boxes are beyond the scope of this study. No attempt was made to determine in ultimate detail how the processing mechanism, the "black boxes" of the systems transformed their inputs. The data collected were concerned only with the end results; i.e., the post high school activities of the outputs[17] (graduates) of the systems.

The systems are to be compared on several relevant factors. Supervisors' ratings and tasks performed on a job are to be used to compare the efficiency of the systems. The categories used to compare the effectiveness of the systems were: 1) The number and types of jobs held, 2) attendance at post high school educational institutions, 3) entrance into the armed services, occupation of 4) homemaker and 5) unemployed.

UNIVERSE.

The total business education system from which the two subsystems, S and T, were drawn is represented by the set of courses described in the listing titled Classification of High School Courses by Subject[18] of the Detroit Public Schools.

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[15] Brown, Francis J., A Final Outcome Analysis to Compare the Effectiveness of an Experimental Business Education System versus A Traditional Business Education System to Prepare Students to Secure Entry Jobs in Office and Retail Occupation, an Ed.D. thesis. Detroit, Michigan: Wayne State University, 1968. Pp. 178.

[16] Brown (1968), ibid, p. 66.

[17] The term "outputs" is used interchangeably with the term "graduates."

[18] Brown (1968), op. cit., p. 2.

1. The S sample is composed of all the outputs (graduates) of the Senior Intensified Program.

2. The T sample is composed of outputs (graduates) of the total business education system (less S) who had taken a minimum of eight semesters of business education courses, and matched one for one to the S sample on the factors of school, sex, and SCAT quartile.

To meet the objectives listed above data required for each member of the study included:

1. The post-high school activities listed by weeks.

2. The number of entry jobs.

3. The type of entry jobs.

4. The tasks performed on the job.

5. Frequency of tasks performed on the job.

6. Supervisor's rating on the job.

7. Courses taken in high school.

In order to select the contrasting group and secure data to determine the above, it was necessary to:

1. Secure lists of graduates of the 12 Detroit high schools that participated in the demonstration project.

2. Secure transcripts for graduates of the 12 Detroit high schools.

3. Develop a survey instrument (see Appendix B) to collect data from a sample of the outputs of the two systems.

4. Develop a survey instrument (see Appendix C) to collect data from selected employers of students working full-time in an entry job as of 30 June 1968 for year one and 30 June 1969 for year two.

5. Record, classify, and sort data for various analyses.

The details involved in the selection of members of each system, and methods for collection of data are discussed in the remainder of this chapter.

SELECTING THE CONTRAST GROUP.

The Total Education System. The first step taken was to determine the composition of the total education system in terms of: (1) sex, (2) SCAT score, and (3) school attended. In order to accomplish this the following steps were taken:

1. Name lists of graduates for 1967 and 1968, and transcripts for each student were obtained from the 12 Detroit high schools included in this study.
2. Each transcript was given a unique number.
3. The total SCAT score was coded by quartile as follows: 99-75=4, 74-50=3, 49-25=2, and 24-00=1.
4. Sex was coded: Male=1, and Female=2.
5. Schools were arranged in alphabetical sequence and coded by number: 01, 02, 03, etc.
6. An 80 column punched card was prepared from each transcript including items 2, 3, 4, and 5.
7. The cards were sorted on items 3, 4, and 5.

Table 3.--COMPOSITION OF TOTAL EDUCATION SYSTEM BY SEX AND SCAT QUARTILE

EDUCATION SYSTEM	TOTAL	TOTAL POPULATION									
		Males by SCAT Quartile					Females by SCAT Quartile				
		Total	1	2	3	4	Total	1	2	3	4
All Schools	7,849	3,284	891	683	569	1,141	4,565	1,635	1,061	792	1,077
Percent of Total	100%	42	11	9	7	15	58	20	14	10	14

System S. The transcripts of the SIP students were separated from the total business education system and divided into two groups: (1) SIP graduates, and (2) SIP dropouts. A code to indicate type of student was added to the punched cards: SIP = 1, and SIP dropout = 9.

The transcripts of the SIP graduates were examined to determine if the established criteria had been met. It was discovered that some of the SIP students had taken traditional business education courses. Analysis of these data indicated that the SIP students had taken some business courses prior to enrolling in SIP. Including the SIP courses, the SIP student had taken an average of eight semesters of business courses.

Therefore, to belong to T, a student must have taken a minimum of eight semesters of traditional business education courses. This criterion was established to insure that members of T had at least as many clock hours of business education as members of S.

Table 4.--COMPOSITION OF S OUTPUTS BY SCHOOL, SEX, AND SCAT QUARTILE

SCHOOLS AND CODE NUMBERS	TOTAL	SYSTEM S									
		Males by SCAT Quartile					Females by SCAT Quartile				
		Total	1	2	3	4	Total	1	2	3	4
01 Cass	48	21	--	--	1	20	27	--	4	8	15
02 Central	33	5	2	3	--	--	28	15	11	1	1
03 Denby	38	6	1	1	1	3	32	5	3	11	13
04 Finney	25	3	1	1	--	1	22	2	3	6	11
05 Ford	11	9	--	3	4	2	2	--	1	--	1
06 Kettering	38	13	4	4	3	2	25	15	8	1	1
07 King	15	4	3	1	--	--	11	8	2	1	--
08 Mackenzie	20	6	3	3	--	--	14	5	8	1	--
09 Northeastern	37	7	2	2	2	1	30	25	2	2	1
10 Northern	95	22	13	8	1	--	73	49	18	4	2
11 Northwestern	33	6	5	1	--	--	27	16	8	3	--
12 Southeastern	30	--	--	--	--	--	30	12	12	4	2
TOTAL	423	102	34	27	12	29	321	152	80	42	47

System T. In order to determine who the members of T were, the remaining transcripts were hand-sorted on these criteria: (a) eight or more semesters of business education, and (b) less than eight semesters of business education. Those having eight or more semesters of business courses were members of T.

An analysis of the transcripts indicated that the T students had taken an average of *17 semesters of business courses* as compared to *8 semesters for the S students* as previously indicated on page 35.

Having selected the members of T, it was necessary to determine its composition in terms of: (1) school, (2) sex, and (3) SCAT score. The following operations were performed on these cards:

1. A code number sex to indicate type was added to the punched cards of members of T.

2. A code number eight was added to the punched cards of all others.

Table 5.--COMPOSITION OF T OUTPUTS BY SCHOOL, SEX, AND SCAT QUARTILE

SCHOOLS AND CODE NUMBERS		TOTAL	SYSTEM T									
			Males by SCAT Quartile					Females by SCAT Quartile				
			Total	1	2	3	4	Total	1	2	3	4
01	Cass	235	39	--	3	8	28	196	7	45	73	71
02	Central	181	19	13	5	1	--	162	115	39	6	2
03	Denby	254	22	5	7	5	5	232	36	87	65	44
04	Finney	176	25	9	4	9	3	151	46	55	28	22
05	Ford	133	11	1	3	4	3	122	17	30	46	29
06	Kettering	102	9	6	3	--	--	93	64	23	2	4
07	King	38	7	4	3	--	--	31	27	4	--	--
08	Mackenzie	162	27	9	8	4	6	135	81	33	13	8
09	Northeastern	142	11	4	3	3	1	131	86	29	13	3
10	Northern	98	13	12	--	1	--	85	59	18	6	2
11	Northwestern	112	11	4	5	1	1	101	65	22	13	1
12	Southeastern	237	34	12	13	6	3	203	114	62	22	5
TOTAL		1,870	228	79	57	42	50	1,642	717	447	287	191

Sample of System T. The members of T were now known. The next step was to select the matched group. The punched cards for S and T were processed to match-merge the two decks. The following is a sample of the printed output showing the number of males in both systems from a given school from Quartile 1:

```
                    SCHOOL     STUDENT                  SCAT
TYPE[19]            NUMBER     NUMBER       SEX[20]     QUARTILE

  1                   06        0127          1            1
  1                   06        0135          1            1
  1                   06        0136          1            1
                                                           _
                                                           3 Total


  6                   06        3245          1            1
  6                   06        3246          1            1
  6                   06        3247          1            1
  6                   06        3251          1            1
  6                   06        3259          1            1
  6                   06        3267          1            1
  6                   06        3280          1            1
  6                   06        3359          1            1
  6                   06        3360          1            1
                                                           _
                                                           9 Total
```

This printout shows that:

1. School number 06 had three male students in System S of SCAT Quartile 1.
2. School number 06 had nine male students in System T of SCAT Quartile 1.
3. It was necessary to randomly select three of the nine members of T to secure a match to S.

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[19] Type 1 = S, Type 6 = T.

[20] Male = 1, Female = 2.

This same procedure was followed to secure a cumulative list for all schools by sex and SCAT quartile.

The next step in this procedure was to randomly match students from S and T on a one-for-one basis.

The procedure used to randomly match members of S to T was described by Hill and Kerber[21]. The procedure was as follows:

1. A random point in the random numbers table was selected as a starting point.
2. The last four numbers of a six digit number of the table was used.
3. When the number of a member of T matched a number in the random table that member of T was selected as a match to a member of S.
4. This process was continued by school, by sex, and by SCAT score until contrast groups were determined from Systems T and S.

A new set of punched cards was then prepared for both S and T so that a list could be run showing the student's name, telephone number, address, school, type, student number, sex and SCAT quartile.

The name, address, and telephone number of the student were obtained from the 12 Detroit schools. However, in many cases the information provided was incorrect. This problem was handled in the following ways:

1. Students from the same school who had been interviewed were asked to help locate their fellow graduates.
2. The telephone directory of the previous year was checked for persons of the same surname as the graduate.
3. The last known address of the graduate was visited by one of the interviewers.

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[21] Hill, Joseph and Kerber, August, Models, Methods, and Analytical Procedures in Education Research (Detroit, Michigan: Wayne State University Press, 1967), p. 44.

The last method proved most helpful when there was no listing of the name in the telephone directory. When these three methods failed, the respondent was sent a registered letter (return receipt requested). As a final resort, a local credit bureau was utilized. Despite all of these efforts, we were unable to locate 90 potential respondents.

DATA COLLECTION.

The steps followed in the collection of data are reported in the following sections:

Development of the Student Interview Instrument. This study is a follow up and evaluation of the Senior Intensified Program that was developed as a result of OREOS. The data collected in OREOS is basically what was required for this study.

The OREOS student interview instrument was studied to determine whether any questions had yielded little or no information. Several questions were found to be in this category. Those questions were deleted or restated. Additional parts were added to some questions in order to secure related facets of that question.

The original draft of the revised instrument was reviewed by the project director and several of the advisors of the OREOS study.

The final revised instrument (see Appensix B) was accepted after seven sessions by the review committee. Since the basic instrument had been validated in a previous study, it was considered valid for this study.

Training of Field Personnel. High school teachers and college instructors who were interested in participating in the study were used as interviewers. Prior to entering the field, three training sessions of three hours each were held to acquaint the interviewers with the purpose of the study, the survey instrument, and the method of conducting the interview.

Two interviews were conducted by each interviewer to test the instrument, and to check the reliability of the interviewer. Another session was held by the project director with the interviewers to answer questions, solve problems, or correct misunderstandings. No major problems were encountered. The instrument did not have to be revised.

The following table indicates the beginning and ending dates for the interviewing of students and employers for both years.

Table 6.--PERIODS OF DATA COLLECTION FOR BOTH YEARS, 1968 and 1969

RESPONDENTS	1968		1969	
	Beginning Dates	Ending Dates	Beginning Dates	Ending Dates
Students	June 27	August 30	June 27	August 20
Employers	July 8	August 30	July 29	August 22

Those respondents that could not be reached during the period indicated were classified as unable to locate.

The results of the field interviews are as follows:

	1968 and 1969	
	System S	System T
Completed Interviews	391	319
Refusals	12	14
Unable to Locate	20	90
TOTALS	423	423

The substantially larger percentage of incompleted interviews for T in 1968 can be explained by several factors:

1. In 1968, two new high schools began the SIP program while two high schools teaching SIP the previous year discontinued the program. One of these two high schools had a very high incompleted respondent rate. Much of this can be attributed to the location of the school. This

school is located in the middle of an urban renewal area. Homes are continually being torn down. This area's population is highly mobile. Because of the foregoing, many of the persons whom we needed to interview could not be located.

2. The Southeastern Michigan area had experienced a number of highly sensational murders. This facet made many of the female participants in the study apprehensive and many refused to cooperate in an interview.

3. At one of the schools the students' records for the 1968 graduates did not contain name of parents as well as telephone numbers. This lack of information caused a loss of respondents.

4. The most important problem was the lack of a credit bureau location service in 1969.

The reason that a larger percentage of SIP students were located is that SIP students knew each other better and could help locate difficult-to-find classmates. The traditional business education students did not have this common experience of being with the same classmates for a block of time during the school day. Therefore, they did not know each other as well.

Method Used to Determine if the Preparation to Perform a Task Had Been Taught in System S or T: System S. A jury was selected from the teachers that taught SIP. Each juror was given a chart that indicated the tasks reported by the students. The chart also showed each of the SIP curriculums. The jurors were asked to indicate the SIP curriculum in which preparation was given to perform that task. If such preparation was not given, they indicated in the space provided on Chart I which is on the next page.

Chart I.--SAMPLE OF THE CHART GIVEN TO THE JURORS OF S

SAMPLE LIST OF TASKS REPORTED	NO PREPARATION PROVIDED	SIP CURRICULUMS				
		Clerk/Cashier	Salesperson	Clerk/Typist	Clerk/Stenographer	Computer Console Operator
Type letters						
Filing						
Lay out ads						
Sell merchandise						
Keypunch						
Operate computer						
Process blueprints						
Teach karate						

Method Used to Determine if the Preparation to Perform a Task Had Been Taught in System S or T: System T. A jury of business education teachers and supervisors was selected by the Director of Business Education of the Detroit public schools. Each juror was given a chart that indicated the tasks reported by the students. The chart also showed the official list of business courses taught in the Detroit Public Schools. Each juror was asked to indicate the course in which preparation was given to perform that task. If such preparation was not given, they were to so indicate in the space provided on Chart 2 on the next page.

Chart 2.--SAMPLE OF THE CHART GIVEN TO THE JURORS OF T

SAMPLE LIST OF TASKS REPORTED	NO PREPARATION PROVIDED	TRADITIONAL BUSINESS COURSES																					
		Accounting (1-2)	Bookkeeping (1-4)	Business English (1-2)	Business Arithmetic (1-2)	Computer Programming (1-2)	Clerical Procedures (1-2)	Office Machines (1-4)	Keypunch	Cost Accounting	Record Keeping (1-2)	Shorthand (1-4)	Transcription (1-2)	Typing (1-4)	Business Law	Business Principles (1-2)	Business Simulation	Calculating (1-2)	Office Procedures (1-2)	Data Processing Concepts	Business Management	Penmanship	Notehand
Type letters																							
Filing																							
Lay out ads																							
Sell merchandise																							
Keypunch																							
Operate computer																							
Process blueprints																							
Teach karate																							

Development of the Employer's Instrument: Part I--Efficiency Rating Device. The prime purpose of the employer's interview instrument was to secure a job performance rating for those students who held full-time entry level jobs in office or retail occupations as of 30 June 1968. The rating device used in this study (see Appendix D for copy) was developed by Liles[22]. This device was used by both Liles and Cook[23] to secure a job performance rating, and is discussed in more detail in Chapter IV.

Part II.--Parallel Questions from the Student Interview Instrument. Several questions were selected from the student interview instrument and included in the employer's instrument (see Appendix C). These questions provide verification of the student's answers concerning job title, period worked, hours worked, testing program, formal training, business skills demanded for the job, office machines used, and tasks performed. The employer was asked to select the business education courses he deemed essential as prerequisites for the job from a list of business education courses taught in the Detroit Public Schools. He was also asked to indicate the sources he used to secure employees. One other question was added to determine if there were any entry-job classifications for which he had been unable to secure employees in the last 12 months.

Training of Field Personnel for Employer's Interview. The same personnel and procedures were used for these respondents as were used for the collection of student data. However, special attention was given to the use of the rating device.

Method to Determine Adequate Sample Size of Employers. As previously stated, only a sample of employers providing full-time related jobs was to be interviewed.

Data from the first 25 employer interviews were used as pilot study data to determine adequate sample size. The following operations were performed on these data:

1. Employer rating values were calculated.

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[22] Liles, Alton B. Parker, Some Factors in the Training of Clerical Workers (Stillwater, Oklahoma: Oklahoma Agricultural and Mechanical College, 1949), p. 43.

[23] Cook, Fred S., A Study to Determine the Predictive Value of the Detroit Clerical Aptitudes Examination (Ann Arbor, Michigan: the University of Michigan, 1952), pp. 118-119.

2. A mean and standard deviation were calculated.

3. Formula used to calculate adequate sample size (n).[24]

$$n = \left[\frac{(z)\ (CV)}{P_s} \right]^2$$

z = Value of confidence interval.
CV = Coefficient of Variation.
P_s = Relative sampling error.

For a confidence level of 95 percent, it was necessary to interview 100 employers. This calculation was for an infinite population, therefore, it would be more than ample for this finite population.

Using the serial method[25], 178 employers were selected at random from those reported by students of S and T. The oversampling was done to permit a loss of participants. However, 177 interviews were completed.

Method Used to Record Data for Analysis. These data were punched into 80 column cards so that analyses could be performed. When processing was completed, these data were available to determine the following factors:

1. A job rating for graduates employed full time in an entry job related to their training.
2. The post-high school work and nonwork patterns of these graduates.
3. The number of full-time and part-time entry level jobs held by these graduates related to training.

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[24] Hill and Kerber (1967), op. cit., pp. 205-207.

[25] Hill and Kerber (1967), ibid., p. 44.

4. The number of full-time and part-time jobs held by these graduates not related to training.

5. The number of unemployed graduates.

6. The number of graduates attending a post-high school educational institution.

7. The number of graduates who entered the armed services.

8. The number of graduates who are full-time homemakers.

9. The relationship of the job tasks performed by these graduates as related to their training.

SUMMARY.

System S has been submitted to the laboratory--12 Detroit schools for trial, and Detroit employers for evaluation.

The data were collected from 710 graduates (June, 1967 and 1968) of the 12 Detroit high schools which offered SIP during the school years of 1966-1967 and 1967-1968. Three hundred and ninety-one of the graduates interviewed were from S and 319 from T. It was not possible to locate 20 graduates of S and 90 graduates of T. Twelve S and 14 T outputs refused to cooperate. Thus, data were secured for 84 percent of the graduates who were included in this study.

A task list was developed from the data supplied by the graduates of both systems. This list was submitted to the jurors of both systems. The results of the jurors' decisions were punched into the proper cards to permit analyses.

One hundred and seventy-eight employers who were providing full-time entry level jobs for graduates of S and T were selected by the random serial process. One hundred and seventy-seven were interviewed. Eighty-nine of the employers had hired graduates of S and 89 employers had hired graduates of T.

These data and their analyses will be presented in Chapter IV.

Chapter IV

PRESENTATION AND ANALYSIS OF DATA COLLECTED FROM OUTPUTS OF S AND T

INTRODUCTION.

The identification and the development of SIP curriculum patterns, materials, and teaching techniques were discussed in Chapter II. The procedures utilized to determine the effectiveness of the two-year demonstration phase of the project were described in Chapter III. The evaluation of the effectiveness of these patterns, materials, and teaching techniques are the focus of this chapter. They are measured by two primary criteria:

1. The evaluation by employers of selected graduates of S and T.
2. The ability of S outputs to enter the field of office and retail occupations, and to compete with the outputs of T.

TOTAL DISTRIBUTION OF S AND T BY RACE, SEX, AND SCAT SCORE.

All of the S graduates who were available for interview in 1968 and 1969, a total of 391 respondents, were treated as a single group. Likewise, the sample of T's who were interviewed from the graduating classes of 1967 and 1968 were combined into a single group--a total of 319 respondents. The total N for S and T respondents is 710.

The distribution of these samples is given in Table 7 on the next page. The reader should note from this table the high percentage of females--543 in number (76%). Of this 543, 392 (55%) were black females. It should also be noted that there was a heavy concentration of the population in Quartile I--300 in number (42%).

BASIC QUESTIONS TO BE ANSWERED.

Data were collected concerning the following questions as well as facets related to each of these questions:

1. How did the employers' rating of the outputs of S compare with the employers' rating for the outputs of T?
2. What were the predominate work and nonwork patterns of the outputs of S and T during the first year after high school graduation?

Table 7.--TOTAL DISTRIBUTION OF S AND T RESPONDENTS BY RACE, SEX, AND SCAT SCORES

SEX AND RACE	TOTAL OF BOTH SYSTEMS	S BY QUARTILES					T BY QUARTILES				
		Total	1	2	3	4	Total	1	2	3	4
Males: black	98	59	25	19	6	9	39	17	9	3	10
white	69	39	7	5	7	20	30	5	7	7	11
Subtotal	167	98	32	24	13	29	69	22	16	10	21
Females: black	392	220	122	62	23	13	172	106	47	12	7
white	151	73	9	12	17	35	78	9	14	22	33
Subtotal	543	293	131	74	40	48	250	115	61	34	40
TOTAL	710	391	163	98	53	77	319	137	77	44	61

This table is to be read: There were a total of 98 black males in both systems. Of this number 59 were found in S and 25 of these were in Quartile 1, 19 in Quartile 2, etc.

3. How many of the outputs of S and T were never employed?

4. What were the predominate work patterns of the graduates who held jobs that were related to their high school training?

    a. Full-time related jobs.

    b. Part-time related jobs.

5. What were the predominate work patterns of those graduates who held full-time jobs that were not related to their high school training?

6. What were the relationships of the work tasks performed by the outputs of both systems to their high school training?

Question 1. *How did the employers' rating of the outputs of S compare with the employers' rating for the outputs of T?*

The employers' rating form (see Appendix C for copy) which contained 20 factors relative to success in clerical or sales work provided the basic data for evaluating the outputs of S and T. This rating form had been validated and used in two previous studies[26]. Since both studies had similar characteristics to the current study, it was considered an appropriate and reliable device.

Table 8 on the next page shows the distribution of the employers' weighted ratings. After the employers had weighted each of the 20 items in relation to their importance for a specific job, they then rated the employee who held that job. The rating scale used was:

Superior	5 Points
Very Good	4 Points
Average	3 Points
Fair	2 Points
Unsatisfactory	1 Point

The weighted rating was obtained by multiplying the weight assigned to item one times the rating assigned to item one, and so on through the 20 factors, and then adding the totals.

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[26] Liles (1949), op. cit., p. 42.
Cook (1952), op. cit., pp. 118-119.

Table 8.--EMPLOYERS' WEIGHTED RATINGS OF 177 OUTPUTS OF S AND T

SCALE		S (N=89)		T (N=88)	
		Number	Percent	Number	Percent
Superior: 5 Points	500	5	6%	3	3%
Very Good: 4 Points	475-499	3	3%	3	3%
	450-474	8	9	8	9
	425-449	12	14	11	13
	400-424	9	10	8	9
			36%		34%
Average: 3 Points.	375-399	7	8%	13	15%
	350-374	16	18	15	18
	325-349	9	10	7	8
	300-324	11	13	8	9
			49%		50%
Fair: 2 Points.	275-299	2	2%	1	1%
	250-274	1	1	1	1
	225-249	1	1	1	1
	200-224	4	4	7	8
			8%		11%
Unsatisfactory: 1 Point.	175-199	--%	--%	--	--%
	150-174	--	--	--	--
	125-149	1	1	2	2
	100-124	--	--	--	--
			1%		2%

This table is to be read: Six percent of the outputs of S received a weighted rating of 500 from their supervisors; 36 percent of the outputs of S received a weighted rating between 400-400 and so forth.

Table 8 also shows that only six percent of the S's and three percent of the T's received a perfect rating of 500 points. At the other end of the scale, only one percent of the S's and two percent of the T's received an unsatisfactory rating. According to the ratings assigned by the employers, 42 percent of the S's and 37 percent of the T's were very good to superior workers.

A test of difference of means was computed between the ratings of the outputs of S and T. The mean rating of the outputs of S was 375.98 and 362.24 for T. A "t" test of these means yielded a "t" of .0195. This value of "t" is not significant. *However, the preparation time for participants in S was 50 percent less than the time utilized in the preparation of T participants.*

The employers' evaluation of selected outputs was the first criterion used to determine the effectiveness of S versus T. The second criterion to be considered was the ability of S's outputs to enter the field of office and retail occupations and to compete with the outputs of T.

The first major question relative to this second criterion was concerned with the predominate post-high school work and nonwork patterns of the outputs.

Question 2. *What were the predominate work and nonwork patterns of the outputs of S and T during the first year after high school graduation?*

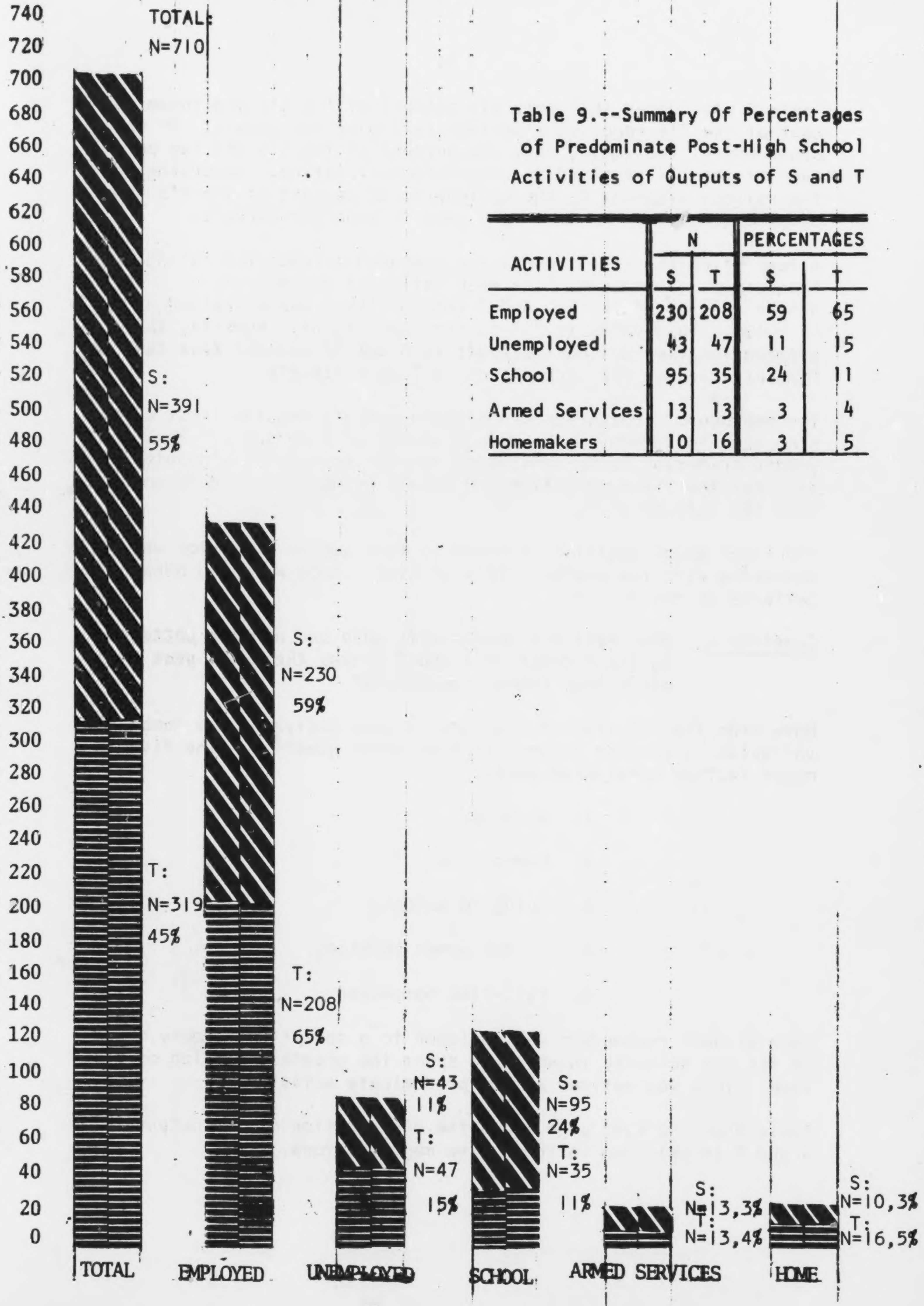
Data from the 710 student respondents were analyzed on a number of variables to provide answers to this basic question. The five major factors considered were:

1. Working.
2. Unemployed.
3. Going to school.
4. In the armed services.
5. Full-time homemaker.

Each student respondent was assigned to a specific category based on the one activity in which he spent the greatest portion of his time. This was defined as his predominate activity.

Table 9 on the next page shows the distribution of the outputs of S and T in relation to these five major factors.

Chart 3.--[redacted] POST-HIGH SCHOOL ACTIVITIES
OF THE OUTPUTS OF S AND T



NOTE: This chart is to be read: Of the 710 respondents, 391 (55%) were in S and 319 (45%) were in T. Of the total number in S, 230 (59%) were employed while in T, 208 (65%) were employed, etc.

Table 9.--Summary Of Percentages of Predominate Post-High School Activities of Outputs of S and T

ACTIVITIES	N		PERCENTAGES	
	S	T	S	T
Employed	230	208	59	65
Unemployed	43	47	11	15
School	95	35	24	11
Armed Services	13	13	3	4
Homemakers	10	16	3	5

It is interesting to note that with one exception the major activities for both groups were basically the same. For example, each group was equally successful in entering the world of work. However, more than twice the percentage of S's (24%) attended a post-high school institution than did T's (11%).

While the intent of SIP was to prepare for entrance into the world of work and not for college, it should be recognized that by definition the outputs of S had more time available for taking nonbusiness courses. Attention must also be called to the fact that no attempt was made to recruit students from the college preparatory curriculum. In fact, 66 percent of the SIP students were in the lower fiftieth percentile on SCAT scores.

Table 10 below illustrates the ingenuity that the outputs utilized in securing employment.

Table 10.--RANK ORDER OF THE MOST FREQUENTLY USED METHODS FOR SECURING EMPLOYMENT FOR OUTPUTS OF S AND T

METHODS USED	1967 *and* 1968	
	S	T
1) Friend	116	75
2) Co-op Program	106	70
3) Walk-in at company's personnel office	100	90
4) Employees already working there and personal reference	50	66
5) Ad in a paper	34	25
6) Mich. Employment Security Commission (also called Mich. Employment Service)	30	31
7) School: Board of Education	23	19
8) Formerly employed there	21	16
9) Public employment agency (does not charge a fee)	20	29
10) Private employment agency (charges a fee)	15	17
11) Work experience Program	4	1

Previous studies have shown that the most common method used by high school students to secure jobs is number three in this study--walk-in at a company's personnel office. For the S outputs, the most commonly used method--a friend--appears to be a significant by-product of the SIP program. These students had the same teacher for two to three class periods per day and their teacher also worked with them as a coordinator.

Apparently, the SIP students developed a much closer working relationship with their peers and teacher than did the T students. This is further emphasized by the fact that the Co-op Program was the second most used method for S's as compared with the third most commonly used method utilized by the T's. In previous studies conducted by the authors there has been a consistently high relationship found between the Co-op Program and the students' ability to secure employment.

Other variables that were considered important in answering the question concerning post-high school activities included quartile ranking, sex, and race. The predominate activity, as measured by the greatest amount of time spent in a given activity, is illustrated in Table II on the next page in terms of these three variables.

An analysis of each of the previously mentioned five major factors in terms of race and sex indicates that these two factors did materially affect the post-high school activities of the outputs of both systems.

Analysis by Race and Sex:

Employed. Contrary to popular opinion, black males in both systems were generally more successful than white males in securing employment. Black females in S (55%) were almost as equally successful with white females in S (60%) in entering the labor market. However, black females in T (61%) were less successful in entering the labor market than were white females in T (73%). The difference between 61 percent versus 73 percent may be accounted for in terms of the high percentage of unemployment in the black female T (22%) group.

Unemployed. As evidenced by Table II, black males fared equally as well as white males in both systems. Black females on the other hand in both systems (S: 16%; T: 22%) had a much higher percentage of unemployment than white females in either S (4%) or T (7%). This pattern, of course, is consistent with most national labor statistics. The authors have also found this pattern true in several previous studies conducted in the Detroit Metropolitan Area.

School. In S all groups were much more likely to attend some type of post-high institution than their counterparts in T. This was especially true in the white male/female categories--28 and 34

Table II.--PREDOMINATE POST-HIGH SCHOOL ACTIVITIES OF OUTPUTS OF S AND T BY QUARTILE, SEX, AND RACE

(In Percents)

PREDOMINATE POST-HIGH SCHOOL ACTIVITIES BY SEX AND RACE		TOTAL				SCAT QUARTILES BY S AND T															
						1				2				3				4			
		S		T		S		T		S		T		S		T		S		T	
EMPLOYED:																					
Males:	black	72	--	83	--	31	--	36	--	30	--	24	--	3	--	5	--	8	--	18	--
	white	--	53	--	48	--	8	--	3	--	8	--	18	--	10	--	6	--	27	--	21
Females:	black	55	--	61	--	30	--	39	--	16	--	16	--	5	--	5	--	4	--	1	--
	white	--	60	--	73	--	10	--	6	--	14	--	14	--	10	--	22	--	26	--	31
UNEMPLOYED:																					
Males:	black	5	--	5	--	3	--	5	--	0	--	0	--	0	--	0	--	2	--	0	--
	white	--	3	--	6	--	0	--	0	--	0	--	3	--	0	--	3	--	3	--	0
Females:	black	16	--	22	--	12	--	16	--	3	--	4	--	1	--	1	--	0	--	1	--
	white	--	4	--	7	--	3	--	3	--	0	--	3	--	0	--	1	--	1	--	0
SCHOOL:																					
Males:	black	14	--	9	--	3	--	2	--	3	--	5	--	5	--	1	--	3	--	1	--
	white	--	28	--	20	--	5	--	3	--	3	--	0	--	3	--	3	--	17	--	14
Females:	black	23	--	9	--	11	--	2	--	6	--	5	--	4	--	1	--	2	--	1	--
	white	--	34	--	12	--	0	--	0	--	1	--	0	--	11	--	3	--	22	--	9
ARMED SERVICES:																					
Males:	black	9	--	2	--	5	--	2	--	0	--	0	--	2	--	0	--	2	--	0	--
	white	--	16	--	26	--	5	--	10	--	3	--	3	--	5	--	10	--	3	--	3
Females:	black	1	--	1	--	1	--	1	--	0	--	0	--	0	--	0	--	0	--	0	--
	white	--	1	--	3	--	0	--	1	--	0	--	1	--	1	--	0	--	0	--	1
HOMEMAKER:																					
Males:	black	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--
	white	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
Females:	black	5	--	7	--	2	--	4	--	2	--	2	--	1	--	0	--	0	--	1	--
	white	--	2	--	5	--	0	--	1	--	1	--	0	--	1	--	3	--	0	--	1

This table is to be read: Of all the black males of S, 72 percent were employed. Of this number, 31 percent were in Quartile 1, 30 percent in Quartile 2, etc. In T 83 percent of the black males were employed. Of this number, 36 percent were in Quartile 1, 24 percent in Quartile 2, etc. Each of the predominate post-high school activities is to be read in the same manner.

percent respectively. However, black males and females were much less likely to enter a post-high school educational program in both systems than were their white counterparts. It should be noted, however, that 23 percent of the black females in S attended post-high school institutions; this was the largest percentage of any black group in either S or T. In S and T for both races, however, the percentage of individuals entering a post-high school institution was consistently and considerably below the national norm of approximately 50 percent.

Armed Services. The number of males entering the armed services differed significantly by race, and some differences are also apparent between S and T. The significant factor in the above table is that a much higher percentage of white males in both S (16%) and T (26%) entered the armed services than did black males (S: 9%; T: 2%). For all practical purposes, there were no differences between S and T, or between the races, in relation to the percentage of females who entered the armed services.

Homemaker. Apparently, there is still a bias in terms of sex since there were no male homemakers. There appears to be no basic differences between S and T outputs, or between blacks and whites, in terms of the percentage of those who were categorized as homemakers.

Analysis by SCAT Quartile.

The remaining variable upon which data were analyzed was the distribution of the outputs of S and T by SCAT quartile. *What effect does an individual's quartile rank have on his post-high school activities? Are there any apparent differences between the two systems when compared on this variable?*

Employed. The major intent of both systems was to prepare the outputs to enter the labor market. Inspection of the above table shows that blacks in both S and T in the lower two quartiles were more likely to have been employed than those in the upper two quartiles. For the whites an inverse relationship existed between quartile distributions.

Unemployed. An analysis of the categories for the unemployed shows that the greatest percentage occured with black females in Quartile I for both S (12%) and T (16%). The next highest was Quartile 2. The male outputs of S in Quartile 2 (0%) and Quartile 3 (0%) were less likely to be unemployed than were the outputs of T in Quartiles 2 and 3 (6%). However, the reverse situation existed for male outputs in Quartile 4.

School. The males from S were more likely to continue their education if they were in Quartiles 1, 2, and 3 than were their male counterparts in T in these same quartiles. This trend of continuing education was even more pronounced for the females found in S in three of the quartile rankings--1, 3, and 4. In Quartile 2, however, the distribution for both systems was quite similar.

Armed Services. The category of "armed services" was consistent within quartiles between the two systems. However, it is interesting to note that the males in Quartile 1 had the highest concentration of those entering the armed services.

Homemaker. In the homemaker category there were no females from S found in Quartile 4. Although the percentages were not high, the black females in Quartiles 1 and 2 were more likely to become homemakers than were their white female counterparts in these same quartiles. In Quartile 3 the reverse was true. The percentages in Quartile 4 were identical--one percent each.

Question 3. *How many of the outputs of S and T were never employed?*

Our discussion concerning the post-high school activities has been directed toward the predominate activity patterns of the outputs. Based upon the predominate activity pattern, it was found that 11 percent (N=43) of S outputs were in this classification while in T there were 15 percent (N=47).

Further analysis revealed that of the 43 S's who were classified as unemployed a total of 10 **had never been employed.** This represents 2.5 percent of the total sample for S. One of these was a white male in Quartile 4, and the other nine were black females--seven in Quartile 1 and two in Quartile 2.

In T there was a total of five who **had never been employed.** This represents 1.6 percent of the total sample for T. All of these were black. One was a male in Quartile 1, and four black females--three in Quartile 1 and one in Quartile 3.

Related versus Nonrelated Jobs. The data clearly indicates that both systems were equally successful in preparing their outputs to enter the labor market. While securing a job is an important criterion of the effectiveness of a vocational program, a more important consideration for vocational educators is the relationship of those jobs to the students' in-school programs and the jobs secured by the outputs of both systems.

A job was defined as "related" if the tasks performed on that job were taught in that outputs system. Jobs were categorized as:

1. Related full-time.
2. Related part-time.
3. Nonrelated full-time.
4. Nonrelated part-time.

The first three categories were analyzed in terms of the percentages found by quartile, race, and sex distributions. Category four contained so few cases that it was not profitable to do a similar analysis for this classification. These categories evolved from Questions 4 and 5 and are illustrated in Tables 12, 13, and 14.

Question 4-A. *What were the predominate work patterns of the graduates who held full-time jobs that were related to their high school training?*

Table 12.--OUTPUTS OF S AND T WHO HELD FULL-TIME RELATED JOBS BY QUARTILE, SEX, AND RACE

(in Percents)

SEX AND RACE	TOTAL				S AND T OUTPUTS HOLDING FULL-TIME RELATED JOBS BY QUARTILES															
	S		T		1				2				3				4			
					S		T		S		T		S		T		S		T	
Males:																				
black	21	--	46	--	7	--	17	--	12	--	17	--	2	--	2	--	0	--	10	--
white	--	15	--	29	--	5	--	0	--	5	--	0	--	0	--	0	--	5	--	29
Females:																				
black	71	--	76	--	36	--	47	--	24	--	20	--	6	--	7	--	5	--	2	--
white	--	72	--	88	--	7	--	9	--	22	--	18	--	14	--	26	--	30	--	35

This table is to be read: Of all the black males in S who were working, 21 percent held full-time related jobs. Of this percentage, 7 percent were in Quartile 1, 12 percent in Quartile 2, etc. Of the black males in T, 46 percent held full-time related jobs. Of this percentage, 17 percent were in Quartile 1, 17 percent in Quartile 2, etc.
(NOTE: This table does not equal 100 percent because some outputs who were working held other kinds of jobs; that is, full-time nonrelated, etc.)

The above table shows that a very high percentage of all females that were working had secured jobs related to their training. Female T outputs were more likely to secure a related job than were their counterparts in S. This is especially noticeable when a comparison was made between the white females in S with only 73 percent versus 88 percent for T. This difference, however, is primarily accounted for by the higher percentage of S females--both black and white--who attended college (see Table 11 on page 58).

It is readily apparent from the above table that males in both systems were less likely to secure jobs related to their training than were the females in this study. Black males, however, from S were much more likely to secure a related job than were white males.

There is also an apparent relationship between quartile rankings and entrance into a related job. For example, black females in Quartile 1 were much more likely to secure a full-time related job than were white females in the same quartile. An inverse relationship by race is found for females in Quartile 4.

Question 4-B. *What were the work patterns of graduates who held part-time jobs that were related to their high school training?*

Table 13.--OUTPUTS OF S AND T WHO HELD PART-TIME RELATED JOBS BY QUARTILE, SEX, AND RACE

(In Percents)

SEX AND RACE	TOTAL				S AND T OUTPUTS HOLDING PART TIME RELATED JOBS BY QUARTILES															
					1				2				3				4			
	S		T		S		T		S		T		S		T		S		T	
Males:																				
black	27	--	14	--	5	--	6	--	10	--	6	--	0	--	0	--	12	--	2	--
white	--	29	--	29	--	0	--	7	--	5	--	7	--	10	--	0	--	14	--	15
Females:																				
black	19	--	11	--	10	--	7	--	5	--	3	--	2	--	1	--	2	--	0	--
white	--	23	--	11	--	7	--	0	--	2	--	1	--	2	--	4	--	12	--	6

This table is to be read: Of all the black males in S who were working, 27 percent held part-time related jobs. Of this percentage, 5 percent were in Quartile 1, 10 percent in Quartile 2, etc. Of the black males in T, 14 percent held part-time related jobs. Of this percentage, 6 percent were in Quartile 1, 6 percent in Quartile 2, etc.

Table 13 illustrates that white males in both systems showed no difference in securing part-time related jobs. However, a smaller percentage of blacks--both males and females--from T were less likely to secure part-time related jobs than were the outputs of S. The 14 percent of black males from T, for example, who held part-time related jobs is much less than the percentages found for white males in both S and T and black males in S. A possible explanation of this apparent difference, however, is that 46 percent of the black males from T held full-time related jobs.

There were no other striking differences between the percentage employed full-time versus part-time in related jobs when a comparison was made within and between quartile rankings.

Question 5. *What were the predominate work patterns of those graduates who held full-time jobs that were not related to their high school training?*

Table 14.--OUTPUTS OF S AND T WHO HELD FULL-TIME NONRELATED JOBS BY QUARTILE, SEX, AND RACE

(In Percents)

SEX AND RACE	TOTAL				S AND T OUTPUTS HOLDING FULL-TIME NONRELATED JOBS BY QUARTILE															
					1				2				3				4			
	S		T		S		T		S		T		S		T		S		T	
Males:																				
black	45	--	40	--	24	--	22	--	19	--	6	--	2	--	2	--	0	--	10	--
white	--	36	--	35	--	10	--	0	--	5	--	21	--	0	--	14	--	21	--	0
Females:																				
black	8	--	9	--	6	--	7	--	1	--	2	--	1	--	0	--	0	--	0	--
white	--	0	--	1	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	1

This table is to be read: Of all the black males in S who were working, 45 percent held full-time nonrelated jobs. Of this percentage, 24 percent were in Quartile 1, 19 percent in Quartile 2, etc. Of the black males in T, 40 percent held full-time nonrelated jobs. Of this percentage, 22 percent were in Quartile 1, 6 percent were in Quartile 2, etc.

Table 14 illustrates that the male population for both S and T tended to secure jobs that were not related to their training. Neither system appears to offer a significant advantage over the other in this respect. The majority of the nonrelated employment among black males--Quartiles 1 and 2 for both systems--ranked second in this respect. For white males, however, the majority are in Quartile 2 for the T's and in Quartile 4 for the S's. Within the male category there was no apparent pattern in terms of quartile ranking by race.

The percentage of the female population for both systems in nonrelated jobs was very low. It is significant to note that the black females were much more likely to be employed in this pattern than were white females. Furthermore, most of the distribution was found in Quartile 1.

The full-time jobs (related and nonrelated) held by the outputs of both systems covered a total of 96 DOT (*Dictionary of Occupational Titles*) classifications. While many of the classifications show only one person employed, it is interesting to note in Table 15 the array of jobs that high school students secure without previous work experience. Apparently, most of these DOTS required little or no in-school preparation and most of these DOTS were held by males. As one would expect, the DOT's with the largest concentration were:

209	Stenography, typing, filing, and related occupations.
213	Automatic data processing equipment operator.
290	Sales clerks.
235	Telephone operators.
223	Stock clerks and related occupations.
249	Miscellaneous clerical occupations.
355	Attendants, hospitals, morgues, and related health services.
203	Typists
311	Waiters, waitresses, and related food serving occupations.
219	Computing and account-record occupations

By definition an entry job is the first full-time job secured by a high school graduate. Table 16 on page 68 indicates quite dramatically that most of these jobs are very low paying. The majority of the respondents reported an income of less than $4,000 for their first year of employment after graduation.

Question 6. *What were the relationships of the work tasks performed by the outputs of both systems to their high school training?*

One of the major purposes of the follow-up studies was to determine how well each system had prepared its outputs to perform on the job.

Table 15.--DISTRIBUTION OF FULL-TIME JOBS HELD BY OUTPUTS OF S AND T BY DOT CLASSIFICATIONS

TITLE OF JOB AND/OR OCCUPATION BY DOT CLASSIFICATION		NUMBER OF FULL-TIME JOBS	
		S	T
079	Medicine and health assistant and/or therapist	6	6
099	Education	1	0
150	Dramatics	1	0
159	Entertainment and recreation	4	3
187	Service industry managers and officials	3	0
195	Social and welfare work	2	0
201	Secretaries	9	19
202	Stenographers	0	2
203	Typists	12	18
204	Correspondence clerks	0	3
206	File clerks	24	20
207	Duplicating-machine operators	3	3
208	Miscellaneous office machine operators	2	0
209	Stenography, typing, filing, and related occupations	61	66
210	Bookkeepers	3	6
211	Cashiers	6	2
212	Tellers	3	1
213	Automatic data processing equipment operators	35	16
215	Bookkeeping machine operators	1	2
216	Computing machine operators	5	5
217	Account-recording machine operators	1	2
219	Computing and account-record occupations	23	23
221	Production clerks	1	0
222	Shipping and receiving clerks	3	9
223	Stock clerks and related occupations	16	17
230	Messengers, errand boys, and office boys and girls	2	6
231	Mail clerks	8	9
233	Mail carriers	1	0
234	Mail preparing and mail handling machine operators	0	1
235	Telephone operators	20	12
237	Receptionists and information clerks	10	5
240	Collectors	1	1
242	Hotel clerks	1	0
249	Miscellaneous clerical occupations	15	13

Cont.--Table 15.--Distribution of Full-Time Jobs Held by ....

TITLE OF JOB AND/OR OCCUPATION BY DOT CLASSIFICATION		NUMBER OF FULL-TIME JOBS	
		S	T
280	Salesmen and salespersons, transportation equipment	1	1
285	Salesmen and salespersons, photographic equipment and supplies	1	0
289	Salesmen and salespersons, commodities	0	2
290	Sales clerks	26	32
292	Routemen	1	0
293	Canvassers and solicitors	1	2
299	Merchandising occupations, except salesmen	6	6
306	Maids, domestic	0	1
307	Nursemaids	1	1
311	Waiters, waitresses, and related food serving occupations	11	4
314	Chefs and cooks, small hotels and restaurants	1	3
316	Meatcutters, except in slaughtering and packing houses	1	0
317	Miscellaneous food and beverage preparation occupations	2	1
318	Kitchen workers	1	1
319	Food and beverage preparation and service occupations	0	1
332	Hairdressers and cosmetologists	1	0
355	Attendants, hospitals, morgues, and related health services	15	7
356	Occupations in animal care	1	3
369	Apparel and furnishings service occupations	4	2
381	Porters and cleaners	2	2
388	Elevator operators	1	0
406	Horticultural specialty occupations	1	0
450	Hunting, trapping and related occupations	1	0
504	Heat-treating occupations	0	1
519	Ore refining and foundry occupations	0	1
526	Cooking and baking occupations	2	0
550	Mixing and blending occupations	1	0
599	Miscellaneous processing occupations	0	2
600	Machinists and related occupations	1	0
606	Boring occupations	1	2
609	Metal machining occupations	1	2
612	Forging occupations	1	0
615	Punching and shearing occupations	3	1

Cont.--Table 15.--Distribution of Full-Time Jobs Held by ....

TITLE OF JOB AND/OR OCCUPATION BY DOT CLASSIFICATION	NUMBER OF FULL-TIME JOBS	
	S	T
617 Metal forming occupations	0	1
659 Printing occupations	1	1
706 Metal unit assemblers and adjusters	2	6
709 Repairmen-metal products	1	0
712 Dental lab technician apprentice	1	0
729 Occupations in assembly and repair of electrical equipment	0	1
750 Tire lubricator	1	0
781 Laying out, marking, cutting, and punching occupations	0	1
787 Sewing machine operator, nongarment	1	0
801 Structural steel worker apprentice	2	0
806 Transportation equipment assemblers and related occupations	5	2
810 Arc welders	2	0
812 Combination arc welders and gas welders	1	0
819 Machine fedder, spot welder	0	1
822 Occupations in assembly, installation, and repair of wire communication, detection, and signaling equipment	3	2
860 Carpenters and related occupations	2	1
861 Brick and stone masons and tile setters	0	1
899 Miscellaneous structural work occupations	2	0
909 Motor freight occupations	2	7
905 Truck drivers, heavy	1	0
910 Railroad transportation occupations	1	1
915 Attendants and servicemen, parking lots and service facilities	4	0
919 Miscellaneous transportation occupations	0	1
920 Packaging occupations	6	6
921 Hoisting and conveying occupations	1	0
922 Occupations in moving and storing materials	4	7
929 Packaging and materials handling occupations	2	1
973 Hand compositors, typesetters, and related occupations	1	0
974 Electrotypers and related occupations	1	0

Table 16.--GROSS ANNUAL INCOME AS REPORTED BY OUTPUTS OF S AND T

GROSS ANNUAL INCOME	NUMBER	
	S	T
Less than $4,000	262	183
More than $4,000, but less than $5,000	57	55
More than $5,000, but less than $6,000	30	35
More than $6,000, but less than $7,000	12	11
More than $7,000, but less than $8,000	5	1
More than $8,000	6	0
Respondent refused to answer/unemployed	24	34
TOTAL	391	319

Previous paragraphs have indicated how well the outputs of each system fared in terms of their supervisors' rating. An additional point for comparison between the outputs was in terms of the tasks performed on these jobs.

The tasks reported by the outputs holding or having held full-time entry jobs in clerical and sales occupations were punched into cards, alphabetized, and listed. The list was examined for duplicate tasks stated in different ways. For instance, one output reported a task as "ring cash register," while another reported it as "operate a cash register," and so forth. The tasks were combined and renumbered under common task titles.

The final tasks listing (see Appendix E) shows that the outputs of S and T reported a combined total of 94 different tasks. Eighty-one of these 94 tasks were performed by the outputs of S and 74 by the outputs of T.

The tasks list was submitted to a jury of judges selected by the Director of Business Education of the Detroit Public Schools and the SIP teachers to determine the system in which each task was taught. Appendix E shows the tasks list and the combined opinions of the judges for the systems.

Table 17 on the next page shows the tasks that were reported 10 or more times as well as the system in which they were taught. A comparison of the system in which the student had been trained and the jobs from which the tasks had been reported shows that with one exception both systems prepared their outputs for the tasks demanded. In S no preparation was given for the tenth related task--operate telephone switchboard.

It is interesting to note in Table 17 that the majority of the tasks were taught in three or more of the T curriculums. One possibility this suggests is that the T outputs were taught the same task in three to eight separate courses. On the other hand, S outputs enrolled in only one of the four curriculums. This replication of tasks taught in T might be one of the reasons that the outputs of this system required twice as much class time as the outputs of S.

In order to determine whether there was any significant statistical difference between the capabilities of the outputs of either system to perform the tasks required of them a form of "t" test was applied.

The tasks reported by the outputs of each system were compared to the tasks that the jury of judges indicated were taught in the systems (that is, curriculums). The difference in the number of tasks reported minus the tasks taught was calculated, and used in the proper statistical formula[27] for the calculation of "t." A "t" value of 0.°762 was obtained. This value is not statistically significant. However, there is evidence that although the outputs of T spent 50 percent more time than the outputs of S in the educational process both systems provided the necessary task preparation.

One of the important considerations in the preparation of office and retail employees is the tasks performed in relation to job clusters. While all of the outputs were preparing to enter these two fields, many as previously indicated entered nonrelated occupations. The curriculum specialists and the classroom teachers had the responsibility of teaching those skills and knowledges necessary to perform specified job tasks. Consequently, one of the basic questions asked of students and employers was *"What specific business skills were demanded for the job you now hold?"*

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[27] Hill and Kerber (1967), op. cit., pp. 342-343.

Table 17.--TASKS PERFORMED IN OFFICE AND RETAIL OCCUPATIONS TEN OR MORE TIMES BY RANK ORDER AND NUMBER OF TIMES TAUGHT IN S AND T

TASKS BY RANK ORDER	NUMBER OF TIMES REPORTED	NUMBER OF TIMES TAUGHT			
		S		T	
		Clerical	Sales	Clerical	Sales
1. Typing, memos, letters, tables, etc.	165	2	0	8	0
2. Filing	96	2	0	4	1
3. Answer and place telephone calls	84	2	1	5	3
4. Post to various records	65	2	0	6	0
5. Pickup, sort, distribute mail	45	2	0	3	2
6. Sell to customers	44	0	1	0	5
7. Operate cash register	37	0	2	0	5
8. Stock shelves	36	0	2	0	6
9. Perform calculations by machine	33	3	2	4	5
10. Operate telephone switchboard	25	0	0	2	0
11. Verify reports	23	2	1	4	5
12. Order supplies and equipment	20	2	2	5	6
13. Take inventory	17	1	2	3	6
14. Mark price changes	16	0	2	0	4
15. Wrap or bag merchandise	16	0	2	0	4
16. Prepare invoices	16	2	1	6	4
17. Operate key punch	15	1	0	4	0
18. Take in money	14	2	2	0	5
19. Operate duplicating equipment	14	2	0	3	1
20. Take dictation and transcribe	13	2	0	5	0
21. Deliver messages	12	1	0	1	4
22. Approve customer credit	12	0	2	3	4
23. Prepare and make bank deposits	11	2	0	6	0
24. Make out checks	10	2	1	4	5

THIS TABLE IS TO BE READ: The task ranked first was reported 165 times by the respondents. This task was taught in two of the clerical programs in S. It was also taught in eight separate courses in T. It was not taught in any of the sales courses in S and T.

Table 18 below illustrates the rank order of the skills that were demanded. These data were collected from all S and T outputs and from selected employers. It is interesting to note the relationship between what the students reported was demanded and what the employers said was demanded.

One of the major findings of OREOS was that relatively few skills are demanded for beginning office and retail jobs. Table 18 illustrates this same situation five years later.

Table 18.--BUSINESS SKILLS DEMANDED AS REPORTED BY OUTPUTS OF S AND T AND BY SELECTED EMPLOYERS OF THESE OUTPUTS

SKILLS	STUDENT OUTPUTS		EMPLOYERS	
	S	T	S	T
No skills demanded	354	307	36	29
Typewriting	133	155	33	45
Filing	46	38	4	12
Business Machines	27	26	4	9
Data Processing	22	8	8	1
Business Mathematics	16	20	4	11
Shorthand	13	27	3	10
Business English	10	9	3	3
Retailing	9	3	2	1
Bookkeeping/Accounting	8	25	0	7
Office Practice	7	8	4	0
General Business	4	4	3	2

There has long been an implicit assumption that because business enterprises use office machines it is essential to teach the operation of these machines in a course commonly called "Office Machines."

In a study[28] conducted in Bay City, Michigan, it was determined with few exceptions--data processing and typewriting--that most employers did not demand knowledge of the operation of standard office equipment as a prerequisite for hiring. Table 19 below indicates by rank order the type of business machines used on the jobs in performance of their tasks as reported by the outputs.

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[28] Cook, Fred S. and Maliche, Eleanor, Office Machines Used in Business Today, mimeo, December, 1965. A report to the Michigan Department of Education, Division of Vocational Education, Lansing, Michigan.

Table 19.--RANK ORDER LISTING OF BUSINESS MACHINES USED IN PERFORMANCE OF JOB TASKS AS REPORTED BY OUTPUTS OF S AND T

BUSINESS MACHINES	OUTPUTS	
	S	T
1. Adding/Calculating Machines	157	151
2. Miscellaneous and No Machines Used	103	113
3. Typewriter	58	53
4. Cash Register	54	53
5. Data Processing	44	19
6. Copying/Xerox	33	26
7. Switchboard	19	8
8. Duplicating	18	16
9. Telephone	14	16
10. Teletype	2	3
11. Dictating	1	3
12. Billing/Bookkeeping	0	2

The above table indicates that the most commonly used equipment was in the adding/calculating classification. This number was significantly higher than the second classification--typewriters. A possible explanation of the low number of typewriters reported might be that the respondents assumed that it would be known that they were using a typewriter on the job. The fact that a greater number of S's (44) than T's (19) used data processing equipment is probably accounted for by the fact that S had a data processing curriculum. Consequently, this type of employee was interviewed.

SUMMARY.

Two primary criteria and six related questions were utilized to compare the effectiveness of S versus T. On criterion one--employer's ratings--it was determined that there were no significant differences. However, it is important to note that S produced the same results in 50 percent less time.

On criterion two--the ability of S outputs to enter the labor market and compete with the outputs of T--the final outcome analysis process was employed. Each of the five major factors was compared and no significant differences seemed apparent. In order to test for statistical significance, a Pearson Product-Moment Correlation Coefficient and its associated "t" test was calculated.

The following table indicates the relationships of the major factors which were the focus of this chapter.

Table 20.--RELATIONSHIP OF THE POST-HIGH SCHOOL ACTIVITES OF THE OUTPUTS OF S AND T

ACTIVITIES	r	t
Employed full-time in a job related to training ..	.4341	5.1713
Employed full-time in a job *not* related to training	.4770	5.5568
Employed part-time in a job related to training ..	.3066	4.1131
Employed part-time in a job *not* related to training	-0.0731	1.9165
Unemployed and seeking employment	.6483	7.4775
Unemployed and *not* seeking employment	.2417	3.5827
Attending post-high school educational institution full-time	.9731	30.2717
Attending post-high school educational institution *part-time*	.9562	23.6185
Full-time homemaker	.9031	15.6508
Armed services	.8081	10.7917

NOTE: "t" > 2.021 is significant at the .05 level: Two tailed test with 50df.

This table is to be read: In terms of the factor "Employed full-time in a job related to training" an "r" of .4341 and a "t" of 5.1713 were found.

It is evident that there were high correlations on all but one of the factors. The exception for which the correlative was low and the "t" was not significant was the factor "nonrelated part-time." Because the majority of the factors tested proved to be similar it can be stated that both systems produced the same end results.

Chapter V

CONCLUSIONS AND RECOMMENDATIONS

SUMMARY.

This study was predicated on the findings from OREOS which raised questions about the relevancy of the beliefs and practices of those involved in the traditional high school business education system. The traditional business education courses had evolved over a period of time without an analysis of its efficiency. The basic area of concern of the SIP Program was to test the feasibility of a new system (S) of preparing high school seniors to secure and compete successfully with traditional business graduates (T) in selected entry office and retail jobs.

To develop this new system and to test its effectiveness it was necessary to:

1. Identify those minimal skills essential for these entry jobs.
2. Prepare more relevant materials to teach these skills.
3. Determine minimal time necessary to teach these skills.
4. Teach these skills to 12th grade students who had no prerequired business skills.
5. Select outputs of T to match outputs of S on school, sex, and SCAT scores.
6. Compare the effectiveness of the outputs of this new system with the outputs of the traditional system.

Students from 12 Detroit high schools were utilized in a two-year demonstration project to test the effectiveness of the new system. Data were collected from both groups by trained, paid interviewers using a structured protocol. Data were also collected from selected employers of the graduates of both systems by trained, paid interviewers. A total of 391 S graduates, 319 T graduates, and 177 employers were interviewed.

These data were the bases for comparing the effectiveness of S with T on two primary criteria:

1. The ability of the outputs of both systems to secure entry jobs.

2. The evaluations from selected employers of the outputs of both systems.

CONCLUSIONS AND RECOMMENDATIONS.

An analysis of the data and the findings reported previously lead to several conclusions that appear to be justified within the limitations of this study. Each conclusion will be followed, if appropriate, by a specific recommendation.

Conclusion 1. A low SCAT quartile ranking for the outputs of both systems did not preclude their securing and competing successfully in an entry job and/or entering a post-high school educational institution. This conclusion is based on the fact that 300 in number (42%) of the population was in the lowest quartile--Quartile I.

Recommendation. All those concerned with the training and employment of high school outputs should be cognizant that students in the first quartile did successfully compete in the world of work and gain entrance into post-high school institutions. Consequently, teachers, counselors, and employers should not let SCAT scores be a major factor in their decisions concerning the student's ability.

Conclusion 2. Both systems prepared their outputs to perform successfully in selected office and retail jobs. Statistically there were no significant differences between the supervisors' ratings of the outputs of S or T. This conclusion is supported by the fact that 91 percent of the S's and 87 percent of the T's received average or above average ratings from their immediate supervisor.

Recommendation. To evaluate continuously a system, it is essential that feedback concerning the outputs be collected systematically at regular intervals. The instrument and procedures used in this study should be further refined and utilized as the bases for the necessary input corrections.

Conclusion 3. System S was approximately 50 percent more efficient in preparing its outputs than T. S outputs had an average of 8 semesters of processing time (courses) as compared to 17 semesters for T.

Recommendation. Consideration should be given to the possibility of reducing the number of courses as well as the number of semesters for each course in T. Furthermore, those courses that are retained should be analyzed to eliminate overlapping of content.

Conclusion 4. Data from employers as well as from the outputs of both systems indicate that regardless of when the student begins training--i.e., at the 10th or at the 12th grade--it makes no apparent difference in his ability to secure and perform satisfactorily in an entry job.

Recommendation. Because effective training for office and retail jobs can be delayed until the senior year of high school, it is suggested that other occupational areas be encouraged to test similar programs. It is further suggested that every high school that offers a vocational office or distributive education program should be required to have programs designed specifically for seniors.

Conclusion 5. Females from both systems are more likely to secure full-time jobs related to their training than are the male outputs of both systems.

Recommendation. Specific attention should be directed to developing in-school training programs that enhance the ability of the male graduate to enter the modern business office.

Conclusion 6. A black female is more likely to be unemployed than any of the other outputs of both systems. However, neither system had a high incidence of outputs who were never employed. The rate of unemployment was significantly below local and national statistics.

Recommendation. Graduates of both systems were successful in securing entry jobs. Consequently, it is recommended that black females be encouraged to consider the opportunities available to them if they have specific training in the office or retail areas.

Conclusion 7. The outputs of both systems used the same basic methods for securing employment. The most frequently used method for S was "friend" and for T it was "walkin at a company's personnel office." In both systems co-operative education was a significant factor in securing an entry job.

Recommendation. In a series of studies it has been demonstrated that there is a significant relationship between being a co-op student and securing an entry job upon graduation from high school. Therefore, it is recommended that an effort be made to isolate those factors that enable co-op students to secure jobs and utilize these factors as an integral part of all vocational programs.

Conclusion 8. Although entry jobs were reported for a total of 96 DOT's, approximately 70 percent of the jobs were accounted for in only 10 DOT's. These 10 DOT's were in the office and distributive occupations.

Recommendation. Teachers, counselors, administrators, students, parents, and others should be apprised of the fact that a significantly high percentage of all high school graduates enter the world of work through an office or retail job. Emphasis should be given to the use of DOT descriptions in describing specific job opportunities, and not to DOT classifications, nor to SIC (Standard Industrial Classifications) codes. The last two put undue emphasis on broad areas, such as retailing, which includes hundreds of DOT's from executive personnel to janitors.

Conclusion 9. Both systems provided the training necessary to perform the tasks required for entry jobs in selected clerical and sales occupations. In S a student could enroll in only one curriculum and be taught a given task only one time. An apparent disadvantage in T is the possibility of a student enrolling in as many as eight courses and being taught the same task in each of the eight courses.

Recommendation. Task analyses should be made for specific entry occupations in order to develop a series of performance goals based upon common tasks. These tasks should be analyzed and specific training materials should be developed to facilitate the learner's acquiring those skills needed for a cluster of entry occupations. Procedures and data developed by the NOBELS[29] project and the current study should be utilized to implement needed curriculum revision in the office and retail occupations.

Conclusion 10. Typewriting and filing were the business skills most commonly reported as demanded by both students and employers for both systems. If a skill is demanded for a specific job, the odds are it will be typewriting.

Recommendation. Since relatively few skills are demanded it is recommended that depth interviews be conducted on a systematic bases with immediate supervisors to determine the extent to which those skills demanded are utilized on the job. Data should also be gathered to determine if the employer and the employee are satisfied with the output's ability to apply the specific skill to the entry job.

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[29] Lanham, Frank W., Herschelmann, Kathleen M., Weber, Cathryn P., and Cook, Fred S., Performance Objectives for A New Office and Business Education Learnings System. Columbus, Ohio: The Center for Vocational and Technical Education, USOE Project Number 808414, April, 1970.

Conclusion 11. If an output of either system was required to use an office machine, it was most likely to be an adding machine.

Recommendation. The outputs of S did not have practice on the use of adding/calculating machines, yet this was apparently no deterrent in their successful adaptation to an entry office job. It is known that adding machines are very simple to learn. Consequently, it is recommended that conclusion 11 *not be used as the basis for teaching a unit or course in office machines.*

Conclusion 12. The outputs of S were more likely to enter a post-high school institution than were those of T. However, white outputs of both systems were more likely to enter a post-high school institution that were the black outputs.

Conclusion 13. White males from both systems are more likely to enter the armed services than their black counterparts.

Conclusion 14. Because there were no statistically significant differences in the post-high school activities of the outputs of both systems for 9 of the 10 activities tested, it is assumed that both systems produced the same end results.

Recommendation. Since both systems produced the same relative results and S was able to do so in approximately 50 percent less time (of both students and teachers), it is recommended that serious consideration be given by local, state, and national leaders in vocational education to establishing senior year intensified programs as the *basic pattern for reimbursable high school vocational education programs.*

APPENDIX A

SUMMARY

OPPORTUNITIES AND REQUIREMENTS FOR INITIAL EMPLOYMENT OF SCHOOL LEAVERS WITH EMPHASIS ON OFFICE AND RETAIL JOBS

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Wayne State University

Proposal No. 2378
January, 1964 to June, 1966

BACKGROUND

In Detroit, as in other metropolitan areas, many skilled occupations are being changed by automation and other technological developments. What is the effect of these changes on the number and types of entry jobs?[1] It has been assumed that shifting job requirements brought about by these changes have caused an imbalance between the needs of business and the current high school curriculums. Curricula innovations must be predicated upon data relative to current and anticipated entry job requirements.

Two major sources of data are available about entry jobs and the demands for these jobs: employers and high school leavers.[2] The current study focused on data to be collected concurrently from samples of both businesses and high school leavers within the political boundaries of Detroit. These data were used to develop a curriculum demonstration project[3] in office and retail areas for the Detroit Public Schools.

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[1] The term "entry job" is defined as the first full-time job of a school leaver (aged 16-21 with a high school education or less) working a minimum of thirty-five hours per week and hired on a permanent basis with no previous full-time experience in a related field.

[2] High school leavers are defined as graduates and dropouts.

[3] Senior Intensified Program, U.S.O.E. Project 6-1968.

OBJECTIVES

The objectives focus primarily on entry jobs in office and retail occupations. Specifically, the purposes were to:

1. Determine the current labor market for high school leavers (aged 16-21) as reported by employers.
    a. What are the jobs available that can be filled by school leavers?
    b. Under what conditions would employers hire this age group for these jobs?
    c. What are the characteristics of entry jobs for office and retail occupations?
    d. What are the specific business skills demanded as a prerequisite for entry into office and retail jobs?
2. Determine what actually happened to school leavers as they sought to enter the labor market as reported by school leavers.
    a. What kinds of entry jobs were obtained by school leavers according to size, kind of business, and job classifications in business?
    b. What specific business skills were demanded as a prerequisite for entry jobs?
3. Determine relationship, if any, between data collected from both groups of respondents--employers and school leavers.
4. Develop a prototype for examining entry job opportunities and requirements that other metropolitan school districts could use.

PROCEDURES

To accomplish the aims of this study it was necessary to:

1. Determine the sampling procedures for the two universes: (a) employers and (b) school leavers.
2. Develop survey instruments to collect data from samples of the two universes.
3. Sort and classify the resultant data for various analyses.

The specific procedures for selecting the samples were:

A. Employers' Sample

1. A list of the 35,091 businesses in the City of Detroit was stratified by size (number of employees) and by type of business (Standard Industrial Classification groupings).

2. From these strata a disproportional stratified serial sample was drawn.

3. There were 683 companies chosen for inclusion in the sample.

B. School Leavers' Sample

1. The universe from which the sample was drawn included all of the June, 1963, graduates (7,422) from 21 Detroit Public High Schools and those who should have graduated in June, 1963 but dropped out of school in their senior year (330), a total of 7,752 persons.

2. The list of persons was stratified by graduate or dropout, school attended, and sex of the respondent.

3. A random proportional stratified sample was then drawn, providing a potential 969 cases.

4. This group was then divided into three parts.

The interview instruments were field tested and revised a number of times before interviewing began. All data were collected by professional interviewers. The business respondents were interviewed three times at six-month intervals starting in July, 1964. Each school leaver was interviewed once: the first group in July, 1964; the second group in January, 1965; and the third group in July, 1965. A panel of 572 companies responded to all three interviews; 422 school leavers interviews were completed in the three interview phases. Trained coders transferred the information into numerical form so that the analyses could be done on the Wayne State University's computers.

FINDINGS

The findings of the study are:

1. Four percent of all Detroit companies (100 or more employees) account for 55 percent of all office and retail jobs secured by 16 to 21 year olds. In all three phases of employer interviews, over 90 percent of the companies with over 500 employees had entry jobs available. Only 22 percent of the smallest companies, on the other hand, had entry jobs available. In other words, the odds are 1 out of 4 that employers of less than 25 employees will hire 16-21 year olds. The smaller the company, the more likely employers are to hire for other than office or retail jobs; the larger the company, the more likely they are to hire for office or retail jobs.

2. Thirty-eight percent of the 35,091 Detroit businesses stated they had entry jobs that could be filled by 16-21 year olds. A significantly lower percent of these same companies, 26 percent in July, 1965, indicated a disposition to hire this age group. However, only 19 percent did, in fact, hire during the six-month period preceding July 1, 1965. Furthermore, only 10 percent of all the Detroit companies hired 16-21 year olds for office or retail jobs.

3. Approximately two-thirds of all entry jobs filled in office and retail occupations were in two Standard Industrial Code Research Categories: 1) retail trade; and 2) finance, real estate, and insurance.

4. Fifty-four percent of all entry jobs were accounted for in clerical and sales Dictionary of Occupational Titles classifications: 44 percent clerical and 10 percent sales.

5. In the fiscal year ended June, 1965, 36 percent of all entry jobs filled in Detroit were in unskilled (25 percent) and semiskilled (11 percent) occupations. This 36 percent was a significant increase over the average of the preceding two years (22 percent).

6. In the fiscal year ended June, 1965, 12 percent of all entry jobs were in service occupations. During the years of the study, service occupations averaged 15 percent of all 16-21 year olds hired.

7. An average of 19 percent of school leavers of 1963 had not held full-time jobs. Furthermore, 5 percent of the class had not experienced even a part-time job. Fifty-five percent of all school leavers had obtained a full-time job within six months after graduation.

8. More 16-21 year olds lost their jobs for incompetence and inability to do the job than for any other reason. Inability to get along with people accounted for one-third of the reasons for dismissal.

9. Of 43 "co-op" students in the sample, 95 percent had had an entry job compared to 79 percent of the other school leavers. The difference was significant above the .02 level. However, of the current full-time jobs held at the time of interview, there was not a significant difference at the .05 level as between "co-ops" and the rest of the school leaver sample.[1]

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[1] The current co-op enrollment in office and Distributive Education while seemingly large (2,300 office) comprises less than 23 percent of the current graduating class; thus it makes less impact than it could because it is not known by many companies. Approximately 600 employers use office co-ops in Detroit out of the potential 35,000 companies in the universe of the study.

10. "Co-op" work study, sex, race, and the combined factors of sex and race, were significant influences on whether a school leaver had held an entry job. "Co-op" was the most positive factor in determining whether a school leaver secured a job. Being a female Negro was the most negative factor in determining that a school leaver did not secure a job.

11. School leavers' intelligence ratings play an important role in determining the type of occupation in which they will find their entry job. Fifty-four percent of the high-intelligence group entered clerical occupations. However, only 17 percent of the low-intelligence group entered this occupational area. In the retail occupations the situation is reversed: Only 5 percent of the high-intelligence group went into retail occupations, while 17 percent of the low group did so.

12. According to the total employer responses, schools and "co-op" work or other work experience programs ranked seventh and eighth of nine ranks as sources of recruiting 16-21 year olds. Of eight sources used by school leavers in seeking a job, school ranked fifth among all sources used. Yet, in actually helping 16-21 year olds obtain a job, school ranked second only to the personnel office. In students' current job, "co-op" work and schools ranked 6 and 7.5 respectively out of eight ranks.

13. Fifty-five percent of school leavers employed in clerical occupations reported taking one or more tests; 22 percent of those in retail occupations so reported.

14. Aptitude tests, including intelligence, accounted for 50 percent of all tests reported by school leavers in obtaining their jobs. Another 33 percent were classified as general achievement tests with more than half of these reported as arithmetic tests. Of those companies seeking

clerical employees, 37 percent reported giving a typewriting test. None of the school leavers, and only 3 percent of the businesses, reported taking or using a sales test.

15. Twenty-six percent of the smallest companies reported using tests; 45 percent, 51 percent, and 56 percent of the three middle-size companies so reported; 95 percent of the largest companies reported using tests.

16. In companies of more than 100 employees, the application blank ranked first; with the interview, formal or informal, ranked second of 12 screening devices. Among the small companies (1-3 employees) informal interview and references from previous employees ranked first and second. School sources of information were relatively unimportant, accounting for the lowest rank of 12 screening devices.

17. General office clerks accounted for 22 percent of all office and retail entry jobs filled; typists, 17 percent; sales clerks and sales clerks in dry cleaning and laundry, 8 percent; sales persons, salesmen to consumers, salesmen and sales agents (except to consumers) and shoppers, 8 percent.

In ratio of skills required to jobs available, secretaries and stenographers ranked first with 1.96 skills demanded per job; typists, 1.1; canvassers and solicitors, 1.0; general office clerks, 0.99.

18. Forty-four percent of all office and retail jobs demanded the skill of typewriting. Of all jobs demanding one or more skills, 85 percent demanded typewriting. Typewriting ranked first as the most frequently required skill in 13 office and retail occupations; second,

in 8; and third, in 1. Only two entry job classifications in office and retailing did not have typewriting demanded of some workers.

CONCLUSIONS

In summary form, the following statements stand out as the major conclusions of the study:

1. There is a high rate of unemployment in the 16-21 year age group.

2. Job turnover among school leavers is relatively high with more than two-fifths reporting holding more than one full-time job.

3. Nine out of ten Detroit businesses do not employ school leavers for entry office and retail jobs.

4. Few business "skills," as the term is used in this study, are demanded as a prerequisite for employment in office and retail jobs.

5. The schools are not considered as an important source for recruiting and screening 16-21 year olds.

6. Typewriting was the one single business skill most often required in an entry office and retail job.

7. Above average aptitudes as represented by intelligence tests are possessed by a high proportion of those entering the clerical field.

8. Sex and race were the most significant influences in Negro females not obtaining an entry job.

9. Both sex and race are significant influences in the type of entry job obtained by school leavers.

10. Retail selling jobs demand few skills.

11. "Co-op" work experience was a positive influence for entrance into full-time employment.

APPENDIX B

DIRECTIONS FOR STUDENT TELEPHONE INSTRUMENT

This is ______________________ from Wayne State University. Is this the home of ________________________?

IF YES, ask: May I please speak with ____________________ (Name of R)?

If R is at home state that: WE ARE CONDUCTING A SURVEY AND WE WOULD APPRECIATE YOUR ASSISTANCE. THE SURVEY IS TO DETERMINE IF YOUR HIGH SCHOOL PROGRAM HAS BEEN BENEFICIAL TO YOU IN YOUR ACTIVITIES SINCE HIGH SCHOOL. THE INTERVIEW TAKES ABOUT 30 MINUTES. IF YOU WOULD ANSWER A FEW QUESTIONS NOW, AND THEN MAKE AN APPOINTMENT TO COME DOWN TO WAYNE STATE UNIVERSITY IN THE NEAR FUTURE, WE WOULD BE WILLING TO PAY YOU $5 FOR APPROXIMATELY 20 TO 30 MINUTES OF YOUR TIME. OR, IF YOU PREFER, WE CAN DO ALL THE INTERVIEWING ON THE PHONE, AND I WILL SEND YOU $3 IN THE MAIL. WHEN WOULD YOU BE ABLE TO SPARE 30 MINUTES? (Set up appointment)

IF R SAYS YES, ask him the questions on Pages 2 and 2a and SET UP the appointment for the Personal or Phone Interview.

If initial contact says that this is not the home of ______________________, ask if the person with whom you are speaking might know where you can reach the R. If answer is still no, return this interview instrument to ________________ and continue the telephone process with the next instrument.

STUDENT INTERVIEW INSTRUMENT

SECTION 1

Telephone Interviewer ____________ Interview No. ____________

Date ____________ ____________ Time ____________ ____________
Given Returned Beginning Ending Total

Part A

Name ____________ ____________ ____ ____________
Last First Initial Maiden Name

Address ____ ____________ ____________
No. Street Telephone Number

City ____________ State ____________ ZIP ____________

SEX:
☐ 1 = Male
2 = Female

MARITAL STATUS
☐ 1 = Single
2 = Married
3 = Other

SOCIAL SECURITY NUMBER
☐☐☐-☐☐-☐☐☐☐

Graduated from ____________ ____________
Name of School Date

Part B

DIRECTED TO: Date ____________

Address ____________ ____________ ____________
No. Street Telephone Number

City ____________ State ____________ ZIP ____________

BY: ____________ ____________
Name Relationship

Part C

DIRECTED TO: Date ____________

Address ____________ ____________ ____________ ____________
No. Street Telephone Number

City ____________ State ____________ ZIP ____________

BY: ____________ ____________
Name Relationship

Part D

REASON FOR NOT COMPLETING INTERVIEW:
☐ 1 = unable to locate 3 = deceased
2 = will not cooperate 4 = other ____________

Part F

STUDENT TELEPHONE INTERVIEW

INTERVIEWER: You are now to ask the respondent (R) to tell you about ALL the activities he has had since graduating from high school.

Record the beginning and ending date of each activity that the R tells you about in the spaces provided called TIME PERIODS.

Indicate the type of activity for each time period by recording the proper identification code number from the following list in the boxes labeled ACTIVITY CODE.

1 = working
2 = unemployed and seeking work
3 = attending a Two-Year Community College
4 = attending a College or University
5 = attending a Commercially operated School
6 = in Armed Services
7 = unemployed and not seeking work
8 = full-time homemaker
9 = other, explain

1. Would you please tell me what you did immediately after graduating from high school? (i.e., go to work, attend school, in Armed Services, etc.)

INTERVIEWER: Record R's answers and continue to ask THEN WHAT DID YOU DO until you have recorded ALL activities of R from July 1, 1968 to June 30, 1969.

TIME PERIODS		ACTIVITY CODE
a. From ______________	To ______________	☐
b. From ______________	To ______________	☐
c. From ______________	To ______________	☐
d. From ______________	To ______________	☐
e. From ______________	To ______________	☐
f. From ______________	To ______________	☐
g. From ______________	To ______________	☐
h. From ______________	To ______________	☐
i. From ______________	To ______________	☐

SPECIAL DETAIL FOR OTHERS (TO BE COLLECTED DURING PERSONAL INTERVIEW)

INTERVIEWER: Set up an appointment with R for a personal interview at WSU by completing Part F.

Part F

APPOINTMENT FOR PERSONAL INTERVIEW

Date ______________________ Time ________________

Location ____

INTERVIEW COMPLETED

Date ______________________ Time ________________
From To

Signature of Interviewer ______________________________

PERSONAL INTERVIEW WORK PATTERN

2. You indicated that you had a job during the time period ______________________.

INTERVIEWER: This refers to the TIME PERIOD section on page 2.

2a. What is the name and address of the company?

Name ____

Address ____
No. Street City State ZIP

2b. What is the name and title of your immediate supervisor?

Supervisor's Name & Title ______________________________

Business Phone ______________________ Ext. __________

3. How many hours a week do you work?

INTERVIEWER: Check the appropriate group.

_____ part-time (34 hours or less per week)

_____ full-time (35 hours or more per week)

4. Are you on the same job you were hired for?

YES _____ NO _____

IF YES: Go to Question 7

IF NO: Go to Question 5

5. What job were you hired for? (INTERVIEWER: Obtain job title)

Job Title ____

6. Why aren't you doing the work you were hired to do:

_____ Promotion
_____ Unable to do job hired for
_____ Employer changed me, don't know why
_____ Other ____________________
____

7. Would you look at this list and tell me how you found out about your job?

INTERVIEWER: Show R Card #__ and check appropriate answer(s).

IF PHONE INTERVIEW, PROBE "R" TO FIND OUT.

_____ 1. Friend, (probe) ____________________
_____ 2. Ad in a paper
_____ 3. Employees already working there and personal reference
_____ 4. Mich. Employment Security Commission or Mich. Employment Service
_____ 5. Private Employment Agency (charges a fee)
_____ 6. Public Employment Agency (does not charge a fee)
_____ 7. WALK IN at Company's Personnel Office
_____ 8. School: Board of Education
_____ 9. Co-op Program
_____10. Work Experience Program
_____11. Formerly employed there
_____12. Other ____________________

8. Did you have to take some kind of test before you were hired for this job?

YES _____ NO _____

IF NO: Skip to Question 9 on Page 6.

IF YES: What kind of test did you take? Please look at this card and tell me if you had any of these tests for this job.

INTERVIEWER: Show R Card #__ and check the type of test(s).

IF A PHONE INTERVIEW, READ AND PROBE.

_____1. General Intelligence or Aptitude (such as SCAT, IQ)
_____2. Achievement (such as a spelling test)
_____3. Performance (such as a typing test) specify:

____

__________ __________

INTERVIEWER: This question continues on the next page.

INTERVIEWER: Please record a "DK" (Don't Know) wherever R is unable to answer.

_____ R took a STRAIGHT COPY TYPING TEST (typing a textbook copy)

1. How many minutes was the test? ___ 1 ___ 3 ___ 5 ___ 10 _____ other ___ DK

2. How many errors were you allowed? ___ 2 ___ 3 ___ 5 ___ DK

3. Could you erase? YES _____ NO _____ DK _____

4. What was the MINIMUM words per minute that you had to type?

    ______________________ Minimum Words Per Minute ___ DK

_____ R took a ROUGH DRAFT TYPING TEST (typing a copy which has errors)

5. How many minutes was the test? ___ 1 ___ 3 ___ 5 ___ 10 _____ other ___ DK

6. How many errors were you allowed? ___ 2 ___ 3 ___ 5 _____ other ___ DK

7. Could you erase? YES _____ NO _____ DK _____

8. What was the MINIMUM words per minute that you had to type?

    ______________________ Minimum Words Per Minute ___ DK

_____ R took a SHORTHAND TEST

1. What was the method used for dictation? Oral_____ Machine_____

2. How many minutes was the dictation test? ___ 1 ___ 3 ___ 5 _____ other ___ DK

3. What method did you use to show the employer that you took the dictation?

    _____ Read notes back to employer
    _____ Wrote notes in longhand
    _____ Typed notes with a typewriter

4. What was the acceptable MINIMUM rate per minute?

    ___ 50 ___ 60 ___ 80 _____ specify ___ DK

5. What was the length of time for transcription?

    ______________ Length of Time ___ DK

9. Have you had any kind of FORMAL TRAINING on your present job?

FORMAL TRAINING refers ONLY to school of some kind, i.e., formal classes or training provided by a training institution, school, or company away from the work station and usually given by specially trained personnel.

YES _____ NO _____

IF NO: Go to Question 10 below.

IF YES: What kind of training? INTERVIEWER: Obtain specific information.

KIND OF FORMAL TRAINING

10. What specific BUSINESS SKILLS were demanded for this job?

INTERVIEWER: Probe for what BUSINESS SKILLS employer demanded BEFORE he would hire R. Check any skill the R mentions, and list all others.

BUSINESS SKILLS DEMANDED BEFORE GETTING JOB

_____ None
_____ Typewriting
_____ Shorthand
_____ Business Machine
_____ Bookkeeping/Accounting
_____ General Business
_____ Office Practice
_____ Business Mathematics
_____ Filing
_____ Data Processing
_____ Retailing
_____ Business English
_____ Other ______________________________
_____ Other ______________________________
_____ Other ______________________________
_____ Other ______________________________

11. What is the title of the job you held during ____________________ time period?

____
Job Title

☐ **Part-Time 34 hrs. or less**

☐ **Full-Time 35+ hrs.**

11a. Would you please list the tasks you performed on this job? The word TASK refers to the assignments given to perform your job; i.e., the boss says; "Take a letter" -- "Place this call" -- "How about a cup of coffee" -- "Did you make my reservations?" -- "Just one more call before you leave."	11b. How often do you perform each of these tasks?				
	Daily	Weekly	Monthly	Yearly	Don't Know

12. Do you use any OFFICE and/or RETAIL machines and/or equipment on THIS job?

YES _____ NO _____

IF NO: Go to Question 13 on the next page.

IF YES: Complete the chart below by asking questions 12a, 12b, & 12c.

INTERVIEWER: Ask R to list all machines and/or equipment used on this job.

12a. What types of machines and/or equipment do you use?	Check or List	12b. Did you know how to operate _______ or were you trained on the job?		12c. How often do you use the ____ ?			
		KNEW	TRAINED	Daily	Weekly	Monthly	Yearly
Adding/Calculating							
Billing/Bookkeeping							
Copying							
Data Processing							
Dictating/Transcribing							
Duplicating							
Typewriter							
Cash Register							
Other							
Other							

13. Do you use any other kinds of machines and/or equipment on THIS job?

YES _____ NO _____

IF NO: Go to page 10.

IF YES: Complete the chart below by asking Questions 13a, 13b, & 13c.

INTERVIEWER: Ask R to list all other kinds of machines and/or equipment used on this job.

13a. What types of other machines and/or equipment do you use?	Check or List	13b. Did you know how to operate _______ or were you trained on the job?		13c. How often do you use the ____?			
		KNEW	TRAINED	Daily	Weekly	Monthly	Yearly

CLASSIFICATION OF HIGH SCHOOL SUBJECTS

14. Please look at this list and tell me what courses and how many semesters of each course you have had in high school.

INTERVIEWER: If R has not mentioned a specific course which is related to his job, then probe.

14a. How often do you use ______ on this job?

	Transcript	Student Answer	Daily	Weekly	Monthly	Yearly	Never	No Application
		1	2	3	4	5	6	7
BUSINESS EDUCATION	X	X	X	X	X	X	X	X
1. Accounting (1-2)								
2. Bookkeeping (1-4)								
3. Business English (1-2)								
4. Business Law (1-2)								
5. Business Arithmetic (1-2)								
6. Data Processing Concepts								
7. Business Principles (1-2)								
8. Business Management								
9. Business Simulation								
10. Calculating (1-2)								
11. Clerical Procedures (1-2)								
12. Computer Programming (1-4)								
13. Cooperative Office Training								
14. Cooperative Office Work (1-3)								
15. Cost Accounting								
16. Key Punch								
17. Notehand								
18. Office Machines (1-4)								
19. Office Procedures (1-2)								
20. Penmanship								
21. Personal Business Problems								

This question continues on next page.

		1	2	3	4	5	6	7
22. Personal Typing								
23. Punched Card Data Processing (1-2)								
24. Recordkeeping (1-2)								
25. Secretarial Procedures (1-2)								
26. Shorthand (1-4)								
27. Transcription (1-2)								
28. Typing (1-4)								
DISTRIBUTIVE EDUCATION	X	X	X	X	X	X	X	X
29. Cooperative Retail Work (1-2)								
30. DE 1 - Marketing								
31. DE 2 - Salesmanship								
32. DE 3 - Merchandising								
33. DE 4 - Sales Promotion								
34. DE Co-op (1-2) Distributive Practices								
35. Personal Business Problems								
SIP	X	X	X	X	X	X	X	X
36. Clerk Stenographer								
37. Clerk Typist								
38. Computer Console Operator								
39. Sales Clerk								
40. Salesperson								
OTHER COURSES	X	X	X	X	X	X	X	X
41. English								
42. Foreign Language								
43. Mathematics								
44. Music								
45. Science								
46. Social Studies								
47. Work Experience								

PART II

UNEMPLOYED AND SEEKING WORK

15. During the period of ______________________________, were you looking for a full-time or part-time job?

INTERVIEWER: Check appropriate group

_____ full-time (35 hours or more per week)

_____ part-time (34 hours or less per week)

16. What kind of work have you been looking for?

INTERVIEWER: List all mentioned

KIND OF WORK R HAS BEEN LOOKING FOR

INTERVIEWER: Ask ONLY if R is UNEMPLOYED AND SEEKING work.

17. Where have you applied for a job? **INTERVIEWER:** List all places mentioned	CODE	17a. What happened: that is, why didn't you get the job? **INTERVIEWER:** See possible answers below & record letter for code

Possible answers for not getting a job:

1 = No openings (None at all, or none for my particular skill)
2 = Race and Nationality
3 = Sex
4 = Age
5 = Religion
6 = Lack qualifications for jobs they had available
7 = Employer called, but I had taken another job
8 = Other (Specify) ____

PART III

POST HIGH SCHOOL EDUCATION PLAN

18. You have told me that you are now or have been in some post high school program. Please tell me what kind of school you are now or have attended.

_____ 2-Year Community College Name of School ______________________________
_____ 4-Year College or University Name of School ______________________________
_____ Commercially Operated School Name of School ______________________________

18a. What is your major area of study?	2-YEAR COMMUNITY COLLEGE	4-YEAR COLLEGE or UNIVERSITY	COMMERCIALLY OPERATED SCHOOL
1. Art			
2. Biology			
3. Bus. Admin.			
4. Bus. Education			
5. Chemistry			
6. Distributive Educ.			
7. Economics			
8. Education			
9. Geography			
10. Home Economics			
11. Physics			
12. Political Science			
13. Psychology			
14. Secretarial			
15. Sociology			
16. Speech			
17. Other _ _ _ _ _ _ _ _			

18b. What job are you preparing for?

JOB R IS PREPARING FOR

PART IV

ARMED SERVICES

19. What kind of duties do you have in the Armed Services?

INTERVIEWER: Please record the job title and list the accompanying tasks.

____
Job Title

19a. Please list the tasks you perform. (The word TASK refers to the assignments given to perform your job; i.e., the boss says: "Take a letter" -- "Place this call"-- "How about some coffee" -- "Did you make my reservations?"	19b. How often do you perform each of these tasks?			
	Daily	Weekly	Monthly	Yearly

PART V

SPECIALIZED JOB TRAINING DURING HIGH SCHOOL

20. Did you have any specialized job training outside of high school during the 10th, 11th, or 12th grade (such as attending a Data Processing Class or Junior Achievement)?

YES _____ NO _____

IF NO: Go to next page.

IF YES: Go to Question 20a, 20b, and 20c.

INTERVIEWER: Record below any classes or training that the R has been enrolled in prior to graduation but for which he did not receive credit on high school transcript.

20a. TYPE OF TRAINING	20b. PLACE OF TRAINING	20c. DATES OF TRAINING
		From: To:
		From: To:
		From: To:
		From: To:
		From: To:
		From: To:
		From: To:
		From: To:

HIGH SCHOOL WORK EXPERIENCE

21. When you were in high school did you have any work experience?

YES _____ NO _____

IF NO: Go to next page.

IF YES: Fill in all parts of Question 21a that apply. Use ACTIVITY CODE in boxes at right side

ACTIVITY CODE

1. Office Co-op
2. Retail Co-op
3. Job Upgrading
4. Work Experience
5. Trade & Industry
6. Other

ACTIVITY CODE

21a. Company ______________________
From ____________ To ____________
Job Title ______________________
Supervisor ______________________
☐

Company ______________________
From ____________ To ____________
Job Title ______________________
Supervisor ______________________
☐

Company ______________________
From ____________ To ____________
Job Title ______________________
Supervisor ______________________
☐

Company ______________________
From ____________ To ____________
Job Title ______________________
Supervisor ______________________
☐

Company ______________________
From ____________ To ____________
Job Title ______________________
Supervisor ______________________
☐

21b. Please describe your work experience.

DESCRIPTION OF R'S WORK EXPERIENCE

PART VII GENERAL JOB RELATED INFORMATION

22. Have any courses you have taken during high school been of special help or hindrance to you in getting and keeping a job?

YES _____ NO _____

IF NO: Go to question 23.

IF YES: Continue with Question 22a.

22a. Which courses were helpful? (LIST)	22b. Why was _ _ _ _ _ helpful?
22c. Which courses were not helpful? (LIST)	22d. Why was _ _ _ _ _ _ not helpful?

JOB RELATED FACTORS

23. In high school are there any other experiences which you think can help people to get a job? (If Necessary: Things like clubs, activities, or helping a teacher or counselor.)

YES _____ NO _____

IF NO: Go to Question 24 on next page.

IF YES: Would you look at this list and tell me what kinds of experiences?

INTERVIEWER: Show R Card # __ and check appropriate letters.

_____ 1. Clubs at school
_____ 2. Activities--such as plays, sports, etc.
_____ 3. Helping a teacher
_____ 4. Helping a counselor
_____ 5. Helping in the office
_____ 6. Special activities
_____ 7. Co-op Programs
_____ 8. Work Experience Programs
_____ 9. Job Upgrading Programs
_____10. Other ______________________________
____

23a. Have any of these experiences been of any help to you in getting and keeping a job?

YES _____ NO _____

23b. In what ways do you think these experiences are helpful?

HOW ABOVE EXPERIENCES ARE HELPFUL TO R

24. Have you ever felt that your age, sex, race, religion, or place of birth was a factor in GETTING a job?

YES _____ NO _____

IF NO: Go to Question 25, next page.

IF YES: Which of these factors?

INTERVIEWER: Check all mentioned

_____ Age
_____ Sex
_____ Race
_____ Religion
_____ Place of Birth
_____ Other ________________________________
____

24a. Why do you think so?

WHY ABOVE FACTORS HELPED R IN GETTING A JOB

25. Have you ever felt that your age, sex, race, religion, or place of birth was a factor in NOT getting a job?

YES _____ NO _____

IF NO: Go to Question 26 below.

IF YES: Which of these factors?

INTERVIEWER: Check all mentioned

_____ Age
_____ Sex
_____ Race
_____ Religion
_____ Place of Birth
_____ Other ____
____

25a. Why do you think so?

WHY ABOVE FACTORS PREVENTED R FROM GETTING A JOB

26. Do you know if anyone called your school or checked on your employment record in any way ?

YES _____ NO _____

27. Was your work station within normal speaking-voice range from your supervisor's desk?

YES _____ NO _____

27a. If not, how far away was it? _______ Feet

27b. Was it in the same room? YES _____ NO _____

27c. Was all the work you did checked by your supervisor?

YES _____ NO _____

28. Is your father/guardian presently employed full-time?

YES _____ NO _____ DECEASED _____ DK _____

IF NO: Ask Question 28b.

IF YES: Ask Question 28 a ONLY

28a. What is his occupation?

INTERVIEWER: Obtain specific information as to type of occupation/business.

e.g., Lathe operator, bank teller, owns fruit farm, etc.

28b. What was the last full-time occupation he held?

INTERVIEWER: Obtain specific information as to type of occupation/business.

e.g., Lathe operator, bank teller, owns fruit farm, etc.

29. What is the highest grade your father/guardian completed in school?

INTERVIEWER: Indicate response with a circle.

Less than 7	8	9	10	11	12	13	14	15	16	17	M.A.	Ph.D.

30. Would you look at this card and tell me which letter represents YOUR gross total yearly income (salaries, wages, dividends, etc.)?

INTERVIEWER: Give R Card #__ and indicate response with a check.

_____1. Less than $4,000
_____2. More than $4,000 but less than $5,000
_____3. More than $5,000 but less than $6,000
_____4. More than $6,000 but less than $7,000
_____5. More than $7,000 but less than $8,000
_____6. More than $8,000
_____7. R did not want to answer

PART VIII

GENERAL INFORMATION

INTERVIEWER: Now I would like to ask you a few questions about your high school career.

31. As you look back over your high school experiences, what would you do differently?

INTERVIEWER: If R replies "Nothing," please indicate and to to Question 33 below.

HOW R WOULD CHANGE HIGH SCHOOL EXPERIENCES

32. What do you wish your teachers, counselors, or someone else in the school would have done differently?

HOW R WISHED HIS/HER TEACHERS, etc. WOULD HAVE DONE DIFFERENTLY

PART IX

RESPONDENT'S COMMENTS

INTERVIEWER'S COMMENTS (TO BE COMPLETED AFTER LEAVING R)

3

APPENDIX C

DIRECTIONS FOR EMPLOYER TELEPHONE INSTRUMENT

Wayne State University is conducting a survey to determine whether or not current high school programs are relevant to the students' post high school work activities. In order to make our inquiry meaningful, we would appreciate your assistance in two ways: 1. Answer some questions concerning the student and his job, and 2. Complete a rating sheet about the student on his job. May we make an appointment with you to obtain some answers concerning ___________________________ on his job? (IF YES) Fill out the sections on page 1.

THE SENIOR INTENSIFIED PROGRAM (SIP)

The purpose of SIP is to demonstrate that those minimal essential business skills demanded by employers for entry into today's office and distributive occupations can successfully be taught in a specially developed Senior Intensified Program.

The Senior Intensified Program requires that the entire content be taught in a minimum of 80 minutes and/or a maximum of 120 minutes per day for not more than one school year.

Preparation was concentrated on those skills that students must have for the entry job. For example, in the case of a Clerk/Typist, we are concerned primarily with what is required to obtain and perform in this entry job cluster.

This survey is to evaluate the output of the SIP Program in terms of the output of the traditional Business Program and the College Preparatory Program in terms of post high school work activities.

EMPLOYER INTERVIEW INSTRUMENT

Telephone Interviewer____________________ Interview No.__________

Date____________________ Time____________________

Given Returned Beginning Ending Total

Name of Company: ____________________

Address: ____________________

City: ____________ State: ____________ ZIP: ______

Telephone Number: ____________________

Respondent: (Mr.) (Mrs.) (Miss)____________________

Title and Department of Respondent: ____________________

____

SIC Code: ____________________

Size Code:

- ____ 1. Less than 4
- ____ 2. Between 4 and 24
- ____ 3. Between 25 and 99
- ____ 4. Between 100 and 500
- ____ 5. More than 500

Date of Interview: ____________________

Time Began: ____________AM____________PM

Time Completed: ____________AM____________PM

REASON FOR NOT COMPLETING INTERVIEW:

☐

1 = unable to locate
2 = will not cooperate
3 = deceased
4 = no further action
5 = other:____________________

NAME OF INTERVIEWER: ____________________

1. ______________________ says (or said) that the title of the position he holds (or held) was ______________________.

Is this the correct title for that position? YES____ NO____

IF NO: Proceed with Question 1a.

IF YES: Proceed with Question 1b.

1a. What is the correct title for this position? ______________________

1b. ______________________ also says (or said) that he worked

From______________________ To______________________ on this job.

Is this correct?

YES____ NO____

IF NO: Proceed with Question 1c.

IF YES: Go to Question 2 on this page.

1c. Please state the correct time period. FROM______________________

TO______________________

2. Did you give ______________________ any kind of test before you hired him for this job? YES____ NO____

IF NO: Skip to Question 3 on Page 4.

IF YES: What kind of test(s) did you give ______________?

INTERVIEWER: Show R Card # 1 and check the type of test(s).

________1. General Intelligence or Aptitude (such as SCAT, IQ)
________2. Achievement (such as a spelling test)
________3. Performance (such as a typing test) specify:
____
________4. Other, specify:______________________________

INTERVIEWER: If the employer has given a typing or shorthand test, complete the next page.

If the employer has NOT given a typing or shorthand test, skip to Question 3 on Page 4.

INTERVIEWER: Please record a "DK" (Don't Know) wherever the employer is unable to answer the question.

_____ You gave _ _ _ _ a STRAIGHT COPY TYPING TEST (typing a textbook copy)

1. How many minutes was the test? ___ 1 ___ 3 ___ 5 ___ 10 ______ other ___ DK

2. How many errors was _ _ _ _ allowed? ___ 2 ___ 3 ___ 5 ___ DK

3. Could he erase? YES____ NO____ DK____

4. What was the MINIMUM words per minute that _ _ _ _ had to type?

______________________ Minimum Words Per Minute ___ DK

_____ You gave _ _ _ _ a ROUGH DRAFT TYPING TEST (typing a copy which has errors)

5. How many minutes was the test? ___ 1 ___ 3 ___ 5 ___ 10 ______ other ___ DK

6. How many errors was _ _ _ _ allowed? ___ 2 ___ 3 ___ 5 ______ other ___ DK

7. Could he erase? YES____ NO____ DK____

8. What was the MINIMUM words per minute that _ _ _ _ had to type?

______________________ Minimum Words Per Minute ___ DK

_____ You gave _ _ _ _ a SHORTHAND TEST

1. What was the method you used for dictation? Oral_____ Machine_____

2. How many minutes was the dictation test? ___ 1 ___ 3 ___ 5 ______ other ___ DK

3. What method did _ _ _ _ use to show you that he took the dictation?

_____ Read notes back to you
_____ Wrote notes in longhand
_____ Typed notes with a typewriter

4. What was the acceptable MINIMUM rate per minute?

___ 50 ___ 60 ___ 80 ______ specify ___ DK

5. What was the length of time for transcription?

______________________ Length of Time ___ DK

3. Do you give any kind of FORMAL TRAINING for this job classification?

FORMAL TRAINING refers ONLY to school of some kind, i.e., formal classes or training provided by a training institution, school, or company away from the work station and usually given by specially trained personnel.

YES ______ NO ______

IF NO: Go to Question 4 on this page.

IF YES: What kind of Training? INTERVIEWER: Obtain specific information.

KIND OF FORMAL TRAINING

4. What specific BUSINESS SKILLS did you demand of ______________ before you hired him for this job?

INTERVIEWER: Probe for what BUSINESS SKILLS employer *demanded* BEFORE he would hire R. Check any skill the R mentions, and list all others.

BUSINESS SKILLS DEMANDED BEFORE GETTING JOB

_____ None
_____ Typewriting
_____ Shorthand
_____ Business Machine
_____ Bookkeeping/Accounting
_____ General Business
_____ Office Practice
_____ Business Mathematics
_____ Filing
_____ Data Processing
_____ Retailing
_____ Business English
_____ Other ______________________
_____ Other ______________________
_____ Other ______________________
_____ Other ______________________
_____ Other ______________________

5. Does this employee use any OFFICE and/or RETAIL machines and/or equipment on this job?

YES___ NO___

IF NO: Go to Question 6 on the next page

IF YES: Complete the chart below by asking Questions 5a, 5b, and 5c.

INTERVIEWER: Ask employer to list all machines and/or equipment________ uses (used) on this job.

5a What types of machines and/or equipment does (did)__________ use?	Check or List	5b Does (did) _____ know how to operate ____ or was he trained on the job		5c How often does (did)______ use the____?			
		KNEW	TRAINED	Daily	Weekly	Monthly	Yearly
ADDING/CALCULATING							
BILLING/BOOKKEEPING							
COPYING							
DATA PROCESSING							
DICTATING/ TRANSCRIBING							
DUPLICATING							
TYPEWRITER							
CASH REGISTER							

6. Does this employee use any other kinds of machines and/or equipment on this job?

YES___ NO___

IF NO: Go to page 7.

IF YES: Complete the chart below by asking Questions 6a, 6b, and 6c.

INTERVIEWER: Ask employer to list all other kinds of machines and/or equipment ______ uses (used) on this job.

6a What types of other machines and/or equipment does (did) ______ use?	Check or List	6b Does (did) ______ know how to operate ______ or was he trained on the job?		6c. How often does (did) ______ use the ______?			
		KNEW	TRAINED	Daily	Weekly	Monthly	Yearly

. How many hours did ____________________ work (or does work) for you on this job?

Full-Time_______
(35 hrs. or more)

Part-Time_______
(34 hrs. or less)

7a. Would you please list the tasks or duties you expected _ _ _ _ to perform on this job? The word TASK refers to the assignments given to perform your job: i.e., the boss says: "Take a letter" -- "Place this call" -- "How about a cup of coffee" -- "Did you make my reservations?" -- "Just one more call before you leave."	7b. How often does (did) _ _ _ _ perform each these tasks?				
	Daily	Weekly	Monthly	Yearly	Don't Know

CLASSIFICATION OF HIGH SCHOOL SUBJECTS

8. Please look at this list and tell me what courses you think are essential as prerequisites for this job.

INTERVIEWER: If employer has not mentioned a specific course which is related to _ _ _ _ _ _ _ _ job, then probe.

8a. How often does the employee use the skills and knowledges learned in this course on this job?

	Employer's Answer	Daily	Weekly	Monthly	Yearly	Never	No Application
	1	2	3	4	5	6	7
BUSINESS EDUCATION	X	X	X	X	X	X	X
1. Accounting (1-2)							
2. Bookkeeping (1-4)							
3. Business English (1-2)							
4. Business Law (1-2)							
5. Business Arithmetic (1-2)							
6. Data Processing Concepts							
7. Business Principles (1-2)							
8. Business Management							
9. Business Simulation							
10. Calculating (1-2)							
11. Clerical Procedures (1-2)							
12. Computer Programming (1-4)							
13. Cooperative Office Training							
14. Cooperative Office Work (1-3)							
15. Cost Accounting							
16. Key Punch							
17. Notehand							
18. Office Machines (1-4)							
19. Office Procedures (1-2)							
20. Penmanship							
21. Personal Business Problems							
22. Personal Typing							
23. Punched Card Data Processing (1-2)							
24. Record Keeping (1-2)							
25. Secretarial Procedures (1-2)							
26. Shorthand (1-4)							
27. Transcription (1-2)							
28. Typing (1-4)							
DISTRIBUTIVE EDUCATION	X	X	X	X	X	X	X
29. Cooperative Retail Work (1-2)							
30. DE 1 - Marketing							
31. DE 2 - Salesmanship							
32. DE 3 - Merchandising							
33. DE 4 - Sales Promotion							
34. DE Co-op (1-2) Distributive Practices							
35. Personal Business Problems							

8. Courses which the employer thinks are essential as prerequisites for employee's job.	Employer's Answer	Daily	Weekly	Monthly	Yearly	Never	No Application
SIP	X	X	X	X	X	X	X
36. Clerk Stenographer							
37. Clerk Typist							
38. Computer Console Operator							
39. Sales Clerk							
40. Salesperson							
OTHER COURSES	X	X	X	X	X	X	X
41. English							
42. Foreign Language							
43. Mathematics							
44. Music							
45. Science							
46. Social Studies							
47. Work Experience							
48. Other:							
49. Other:							

INSTRUCTIONS FOR THE USE OF EFFICIENCY RATING BLANK

To Rating Officials:

First, Weight the items on the Efficiency Rating Blank in the column to the left of the numbers, marked "Weight." The total must be 100. For instance, if you consider all items of equal importance, each item would receive a weighting of 5. If not, assign them whatever weighting you wish, such as 15, 12, 10, 8, 7½, 5, 3, 2, 1, etc.

Second, Rate the employee on each of the twenty items in the column marked "Rating." Use the rating scheme described below.

RATING SCHEME

	Point Rating
1. SUPERIOR ______	5
2. VERY GOOD ______	4
3. AVERAGE ______	3
4. FAIR ______	2
5. UNSATISFACTORY ______	1

1. Do not fill in the column entitled "Weighted Rating."
2. You may use the same weighting of the items on the rating sheet in rating each of the workers or you may weight the items differently for each type of job, as you prefer.
3. Be careful not to let personal likes or dislikes or prejudice influence the rating. Make the rating as objective as possible.
4. Be sure that each item is considered separately, regardless of what the rating may be on other items.

EFFICIENCY RATING SHEET

Name of Employee ____________ Title of Position ____________

Company ____________ Department (if any) ____________

Weight			Rating	Weighted Rating
	1.	Personal appearance--appropriate dress and grooming.		
	2.	Dependability		
	3.	Initiative and/or resourcefulness		
	4.	Personality--cheerfulness and/or charm		
	5.	Industry		
	6.	Ability to maintain harmonious working relations with others		
	7.	Neatness and orderliness in maintenance or arrangement of physical surroundings, such as desks, files, floor and so forth		
	8.	Does not lose excessive time in personal telephone calls, talking with fellow workers going to the rest room, and so forth		
	9.	Attendance, tardiness, and strict observance of break or lunch periods.		
	10.	Speed in performing operations--amount of acceptable work produced		
	11.	Accuracy in performing operations		
	12.	Ability to follow instructions accurately and without repetition		
	13.	Ability to organize his work		
	14.	Ability to work under pressure or abnormal conditions, such as meeting deadlines, multiple assignments, extra work, and so forth		
	15.	Capacity for remembering necessary details, figures, instructions, and so forth		
	16.	Ability to suggest improvements in work techniques and operations		
	17.	Acceptability of work--is within acceptable work techniques and operations		
	18.	Ability to make judgments or decisions quickly and accurately		
	19.	Physical fitness for the work		
	20.	Natural ability and aptitude and aptitude for this job		

WEIGHTED SCORE ____________

Rated by ____________ ____________ ____________
Signature Title Date

Reviewed by ____________ llc ____________ ____________
Signature Title Date

9. During the last 12 months, have you had any ENTRY jobs for which you were unable to secure employees?

INTERVIEWER: Please repeat the definition for entry jobs. Entry job is defined as the first full-time job of a school leaver (aged 16-21 with a high school education or less) working a minimum of thirty-five hours per week and hired on a permanent basis with no previous full-time experience in a related field.

______YES ______NO

9a. If yes, please list those entry job titles:

1.____________________________

2.____________________________

3.____________________________

10. In your opinion, why do you feel you have not been able to secure qualified applicants?

EMPLOYER'S OPINION ON WHY HE HAS NOT BEEN ABLE TO SECURE QUALIFIED APPLICANTS

11. Would you look at this card and tell me how you secure employees, AGED 16 - 21, for your ENTRY occupations?

CARD #3

_____1. Friend, (Probe)
_____2. Ad in a paper
_____3. Employees already working there and personal references
_____4. Michigan Employment Security Commission or Michigan Employment Service
_____5. Private Employment Agency (charges a fee)
_____6. Public Employment Agency (doesnnot charge a fee)
_____7. WALK IN at Company's Personnel Office
_____8. School: Board of Education
_____9. Co-op Program
_____10. Work Experience Program
_____11. Formerly employed there
_____12. Other:______________________________

RESPONDENT'S COMMENTS

INTERVIEWER'S COMMENTS *TO BE COMPLETED AFTER LEAVING R*

APPENDIX D

INSTRUCTIONS FOR THE USE OF EFFICIENCY RATING BLANK FOR CLERICAL EMPLOYEES

To Rating Officials:

First: Weight the items on the Efficiency Rating Blank in the column to the left of the numbers, marked "Weight." The total must be 100. For instance, if you consider all items of equal importance, each item would receive a weighting of 5. If not, assign them whatever weighting you wish, such as 15, 12, 10, 8, 7-1/2, 5, 3, 2, 1, etc.

Second: Rate the employee on each of the twenty items in the column marked "Rating." Use the rating scheme described below.

RATING SCHEME

	Point Rating
1. SUPERIOR	5
2. VERY GOOD	4
3. AVERAGE	3
4. FAIR	2
5. UNSATISFACTORY	1

1. Do not fill in the column entitled "Weighted Rating."
2. You may use the same weighting of the items on the rating sheet in rating each of the clerical workers or you may weight the items differently for each type of clerical job as you prefer.
3. Be careful not to let personal likes or dislikes or prejudice influence the rating. Make the rating as objective as possible.
4. Be sure that each item is considered separately, regardless of what the rating may be on other items.

EFFICIENCY RATING SHEET FOR CLERICAL WORKERS

Name of Employee ____________________ Title of Position ____________________

Company ____________________ Department, if any ____________________

Weight		Rating	Weighted Rating
_____	1. Personal appearance--appropriate dress and grooming.	_____	_____
_____	2. Dependability.	_____	_____
_____	3. Initiative and/or resourcefulness.	_____	_____
_____	4. Personality--cheerfulness and/or charm.	_____	_____
_____	5. Industry.	_____	_____
_____	6. Ability to maintain harmonious working relations with others.	_____	_____
_____	7. Neatness and orderliness in maintenance or arrangement of physical surroundings, such as desks, files, floor and the like.	_____	_____
_____	8. Does not lose excessive time in personal telephone calls, talking with fellow workers, going to the rest room and the like.	_____	_____
_____	9. Attendance, tardiness, and strict observance of recess or lunch periods.	_____	_____
_____	10. Speed in clerical operations--amount of acceptable work produced.	_____	_____
_____	11. Accuracy in clerical operations.	_____	_____
_____	12. Ability to follow instructions accurately and without repetition.	_____	_____
_____	13. Ability to organize his work.	_____	_____
_____	14. Ability to work under pressure or abnormal conditions, such as meeting deadlines, multiple assignments, extra work, and the like.	_____	_____
_____	15. Capacity for remembering necessary details, figures, instructions, and the like.	_____	_____
_____	16. Ability to suggest improvements in clerical techniques and operations.	_____	_____
_____	17. Presentability of work--appropriateness of arrangement and appearance of work.	_____	_____
_____	18. Ability to make judgments or decisions quickly and accurately.	_____	_____
_____	19. Physical fitness for the work.	_____	_____
_____	20. Natural ability and aptitude for clerical work.	_____	_____
	Weighted Score		_____

Rated by ____________________ Title ____________________ Date __________
Signature

Reviewed by ____________________ Title ____________________ Date __________
Signature

APPENDIX E

BEST AVAILABLE COPY

	Subsystems of "T"																												Subsystems of "S"												
Task Title	Accounting (1-2)	Bookkeeping (1-4)	Business English (1-2)	Business Law (1-2)	Business Arithmetic (1-2)	Data Processing Concepts	Business Principles	Business Management	Business Simulation	Calculating (1-2)	Clerical Procedures (1-2)	Computer Programming (1-4)	Cooperative Office Training	Cooperative Office Work (1-3)	Cost Accounting	Key Punch	Notehand	Office Machines (1-4)	Office Procedures (1-2)	Penmanship	Personal Business Problems	Personal Typing	Punched Card Data Processing	Record Keeping (1-2)	Secretarial Procedures (1-2)	Shorthand (1-4)	Transcription (1-2)	Typing (1-4)	Cooperative Retail Work (1-2)	DE 1 - Marketing	DE 2 - Salesmanship	DE 3 - Merchandising	DE 4 - Sales Promotion	DE CO-OP	Personal Business Problems	Clerk Stenographer	Clerk Typist	Computer Console Operator	Sales Clerk	Salesperson	Number of Times Reported
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
Act as store detective	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	0	0	0	0	0	1	1
Act as watchman	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1
Add and balance columns	1	1	0	0	1	0	0	0	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	1	1	1	0	1	1	1	1	1	1	1	1	4
Answer and place phone calls	1	1	1	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1	0	1	1	0	0	1	84
Approve customer credit	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	0	0	0	0	1	1	12
Assist Teacher with students	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	[illegible]	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	3
Bag mail	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	[illegible]	0	0	0	0	0	[illegible]	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	4
Cancel currency	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	[illegible]	0	0	[illegible]	0	0	0	0	0	[illegible]	0	0	0	0	0	1	0	0	0	0	0	0	1
Check claims of customers	0	0	1	0	0	0	0	0	0	0	0	0	0	0	[illegible]	0	0	1	0	0	[illegible]	0	0	0	0	0	0	1	1	0	1	1	1	1	0	1	0	0	1	1	2
Check in stock against inventory	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	[illegible]	1	0	0	0	0	0	[illegible]	0	0	0	0	1	1	1	0	0	1	0	1	0	0	0	1	5
Clean and set up display cases	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	[illegible]	0	[illegible]	[illegible]	0	0	0	[illegible]	[illegible]	0	0	0	1	1	1	1	1	1	0	0	0	0	0	1	7
Clean work area	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	6
Close out cash register	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	1	1	6
Collate and staple reports	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	1	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	1
Deliver merchandise and collect	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Deliver messages and packages	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1	0	0	1	0	0	0	12
Demonstrate merchandise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	0	0	0	0	0	1	3
Drive truck	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Filing, general	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	1	0	0	0	36

Subsystems of "T"

Task Title	Accounting (1-2)	Bookkeeping (1-4)	Business English (1-2)	Business Law (1-2)	Business Arithmetic (1-2)	Data Processing Concepts	Business Principles	Business Management	Business Simulation	Calculating (1-2)	Clerical Procedures (1-2)	Computer Programming (1-4)	Cooperative Office Training	Cooperative Office Work (1-3)
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Give phone rates	0	0	1	0	0	0	0	0	0	0	1	0	1	1
Give product information to customer	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Greet people, get name, address,	0	0	0	0	0	0	0	0	0	0	1	0	1	0
Handle customer complaints	0	0	1	0	0	0	0	0	0	0	1	1	0	0
Imprint cards	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Load and unload trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Make appointments	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Make coffee, clean boss desk	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Make hotel and travel reservations	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Make minor automobile repairs	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Make out checks	1	1	0	0	0	0	0	0	0	0	0	1	0	0
Make out payroll	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Make out sales slips	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mark price changes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Matching codes to names	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Model clothes or clothing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Office supplies from storeroom	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Open and close accounts	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Operate Addressograph equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Task Title	Cost Accounting	Key Punch	Notehand	Office Machines (1-4)	Office Procedures (1-2)	Penmanship	Personal Business Problems	Personal Typing	Punched Card Data Processing	Record Keeping (1-2)	Secretarial Procedures (1-2)	Shorthand (1-4)	Transcription (1-2)	Typing (1-4)
	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Give phone rates	0	0	0	0	1	0	0	0	0	0	1	0	0	0
Give product information to customer	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Greet people, get name, address,	0	0	0	0	1	0	0	0	0	0	0	1	0	0
Handle customer complaints	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Imprint cards	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Load and unload trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Make appointments	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Make coffee, clean boss desk	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Make hotel and travel reservations	0	0	0	0	1	0	0	0	0	0	1	0	0	0
Make minor automobile repairs	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Make out checks	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Make out payroll	1	0	0	0	0	0	0	0	0	1	0	0	0	0
Make out sales slips	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mark price changes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Matching codes to names	0	1	0	0	0	0	0	0	0	1	0	0	0	0
Model clothes or clothing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Office supplies from storeroom	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Open and close accounts	1	0	0	1	0	0	0	0	0	1	0	0	0	0
Operate Addressograph equipment	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Subsystems of "S"

Task Title	Cooperative Retail Work (1-2)	DE 1 -Marketing	DE 2 - Salesmanship	DE 3 - Merchandising	DE 4 - Sales Promotion	DE CO-OP	Personal Business Problems	Clerk Stenographer	Clerk Typist	Computer Console Operator	Sales Clerk	Salesperson	Number of Times Reported
	29	30	31	32	33	34	35	36	37	38	39	40	
Give phone rates	1	0	1	0	0	1	0	1	1	0	0	1	3
Give product information to customer	1	0	1	1	0	1	0	0	0	0	1	1	1
Greet people, get name, address,	0	0	0	0	0	0	0	1	1	0	0	0	7
Handle customer complaints	1	0	1	1	0	1	0	1	1	0	0	0	8
Imprint cards	1	0	1	1	1	1	0	0	0	0	1	1	1
Load and unload trucks	0	0	0	0	0	0	0	0	0	0	0	0	7
Make appointments	0	0	0	0	0	0	0	1	1	0	0	0	7
Make coffee, clean boss desk	0	0	0	0	0	0	0	1	1	0	0	0	6
Make hotel and travel reservations	0	0	0	0	0	0	0	1	1	0	0	0	2
Make minor automobile repairs	0	0	0	0	0	0	0	0	0	0	0	0	1
Make out checks	1	1	1	1	0	1	0	1	1	0	0	1	10
Make out payroll	0	0	0	0	0	0	0	0	1	1	0	0	1
Make out sales slips	1	1	1	1	0	1	0	0	1	0	1	1	1
Mark price changes	1	0	1	1	0	1	0	0	0	0	1	1	16
Matching codes to names	1	1	1	1	0	1	0	1	1	1	0	1	2
Model clothes or clothing	0	0	0	0	1	0	0	0	0	0	0	0	1
Office supplies from storeroom	0	0	0	0	1	0	0	1	1	0	1	1	1
Open and close accounts	0	0	0	1	0	0	0	0	1	0	0	0	2
Operate Addressograph equipment	0	0	0	0	1	0	0	0	0	0	0	0	6

	SUBSYSTEMS OF "T"																																			SUBSYSTEMS OF "S"					
Task Title	Accounting (1-2)	Bookkeeping (1-4)	Business English (1-2)	Business Law (1-2)	Business Arithmetic (1-2)	Data Processing Concepts	Business Principles (1-2)	Business Management	Business Simulation	Calculating (1-2)	Clerical Procedures (1-2)	Computer Programming (1-4)	Cooperative Office Training	Cooperative Office Work (1-3)	Cost Accounting	Key Punch	Notehand	Office Machines (1-4)	Office Procedures (1-2)	Penmanship	Personal Business Problems	Personal Typing	Punched Card Data Processing	Record Keeping (1-2)	Secretarial Procedures (1-2)	Shorthand (1-4)	Transcription (1-2)	Typing (1-4)	Cooperative Retail Work (1-2)	DE 1 - Marketing	DE 2 - Salesmanship	DE 3 - Merchandising	DE 4 - Sales Promotion	DE CO-OP	Personal Business Problems	Clerk Stenographer	Clerk Typist	Computer Console Operator	Sales Clerk	Sales Person	Number of Times Reported
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
Operate Bookkeeping Machine	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Operate Cash Register	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	1	0	0	0	0	1	1	37
Operate Coin Sorter	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Operate Computer Console	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	5
Operate Copying Equipment,Zerox,etc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	4
Operate Decollator	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Operate Elevator	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Operate Flexowriter	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Operate IBM Collator	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2
Operate IBM Interpreter	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Operate IBM Printer 407,1440,etc	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Operate IBM Reproducers	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	8
Operate IBM Sorter	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2
Operate Key Punch	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	15
Operate Mail and Postage Machines	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	1	0	0	1	0	1	1	5
Operate Multilith and other copy	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	1	0	0	0	14
Operate Telephone Switchboard	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25
Operate Telephone Time Recorder	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Operate Teletype	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Order Supplies and Equipment	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	1	0	1	1	20

Subsystems of "T" Subsystems of "S"

Task Titles	Accounting (1-2) 1	Bookkeeping (1-4) 2	Business English (1-2) 3	Business Law (1-2) 4	Business Arithmetic (1-2) 5	Data Processing Concepts 6	Business Principles 7	Business Management 8	Business Simulation 9	Calculating (1-2) 10	Clerical Procedures (1-2) 11	Computer Programming (1-4) 12	Cooperative Office Training 13	Cooperative Office Work (1-3) 14	Cost Accounting 15	Key Punch 16	Notehand 17	Office Machines (1-4) 18	Office Procedures (1-2) 19	Penmanship 20	Personal Business Problems 21	Personal Typing 22	Punched Card Data Processing 23	Record Keeping (1-2) 24	Secretarial Procedures (1-2) 25	Shorthand (1-4) 26	Transcription (1-2) 27	Typing (1-4) 28	Cooperative Retail Work (1-2) 29	DE 1 - Marketing 30	DE 2 - Salesmanship 31	DE 3 - Merchandising 32	DE 4 - Sales Promotion 33	DE CO-OP 34	Personal Business Problems 35	Clerk Stenographer 36	Clerk Typist 37	Computer Console Operator 38	Sales Clerk 39	Salesperson 40	Number of Times Reported
Perform calculations by machine	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	0	1	1	1	1	0	1	1	1	1	1	33
Pickup,sort,open,distribute mail	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	45
Post to various records	1	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	65
Prepare and make bank deposits	1	1	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	11
Prepare clinical charts	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Prepare cost estimates	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Prepare invoices	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	1	0	1	1	0	1	0	1	1	0	0	1	16
Prepare mail pkgs. for shipping	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	1	0	1	0	1	1	0	1	1	7
Prepare phone call ticket	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	1	1	0	1	0	1	1	0	0	1	4
Prepare reports given data	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	1	1	1	0	1	1	1	0	1	2
Process aperature cards	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Process customer returns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	1	0	0	0	0	1	1	5
Secure mount clean magnetic tapes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Sell to customers	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	1	0	0	0	0	0	1	44
Stock shelves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	1	1	36
Supervise other workers	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	4
Take dictation & transcribe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	1	1	0	0	0	13
Take in money	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	1	0	1	1	0	1	1	14
Take inventory	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	1	1	0	0	1	0	1	1	17
Transfer money from one acct to another	1	1	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1

Task Title	SUBSYSTEMS OF "T"																																			SUBSYSTEMS OF "S"					Number of Times Reported
	Accounting (1-2) 1	Bookkeeping (1-4) 2	Business English (1-2) 3	Business Law (1-2) 4	Business Arithmetic (1-2) 5	Data Processing Concepts 6	Business Principles (1-2) 7	Business Management 8	Business Simulation 9	Calculating (1-2) 10	Clerical Procedures (1-2) 11	Computer Programming (1-4) 12	Cooperative Office Training 13	Cooperative Office Work (1-3) 14	Cost Accounting 15	Key Punch 16	Notehand 17	Office Machines (1-4) 18	Office Procedures (1-2) 19	Penmanship 20	Personal Business Problems 21	Personal Typing 22	Punched Card Data Processing 23	Record Keeping (1-2) 24	Secretarial Procedures (1-2) 25	Shorthand (1-4) 26	Transcription (1-2) 27	Typing (1-4) 28	Cooperative Retail Work (1-2) 29	DE 1 - Marketing 30	DE 2 - Salesmanship 31	DE 3 - Merchandising 32	DE 4 - Sales Promotion 33	DE CO-OP 34	Personal Business Problems 35	Clerk Stenographer 36	Clerk Typist 37	Computer Console Operator 38	Sales Clerk 39	Sales Person 40	
Type Envelopes	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	3
Type Forms	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	20
Type Labels	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	2
Type Letters	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	1	0	0	1	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	32
Type Memos	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	1	0	0	1	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	38
Type Resumes	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	4
Type Statistical Tables	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	10
Type Stencils and Masters	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	4
Typing General	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	52
Update Reference Manuals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	1
Verify Delivery Instructions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	1	0	1	0	0	0	0	2
Verify Prices of Competitors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	0	0	0	0	0	1	3
Verify Reports and Forms	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	1	1	1	0	1	1	0	0	1	23
Verify Telephone Numbers	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	1	1	1	1	1	0	1	1	0	1	1	2
Wire Boards Punch Card Equipment	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Wrap or Bag Merchandise	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	1	0	0	0	0	1	1	16